Ubudoda Abukhulelwa – Responsible Manhood

UBUDODA ABUKHULELWA - RESPONSIBLE MANHOOD: Towards the Development of a Culturally Tailored and Contextually Sensitive Life Skills Programme for Young Men in South Africa

Thabang Manyaapelo

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UBUDODA ABUKHULELWA - RESPONSIBLE MANHOOD: Towards the Development of a Culturally Tailored and Contextually Sensitive Life Skills Programme for Young Men in South Africa

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Thabang Manyaapelo

Supervisors:

Prof. dr. R. A.C. Ruiter,
Prof. dr. H. W. van den Borne,
Prof. dr. S. P. Reddy, HSRC, South Africa

Assessment Committee:

Prof. dr. G.J. Kok (chairman)
Prof. dr. K. Peltzer, South Africa
Prof. dr. R.M.M. Crutzen
Dr. S. James, South Africa
Dr. K.J. Jonas

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CHAPTER 1

General Introduction

General Introduction

South Africa has spent a lot of resources over the years towards the prevention and treatment of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) related diseases but the results are not commensurate with these efforts. There still remains a gap as to why these HIV prevention efforts have not yielded lower transmission rates and therefore fewer infected people. As a result of this gap, there is an urgent need to gain a better understanding of all of the possible drivers of the HIV/AIDS epidemic. Changing risky sexual behaviours is one way that could help turn the tide and men have been identified as playing an important role in HIV transmission. This study was conceived in an attempt to address the need for a health behaviour change intervention that targets men since women had been the focus of HIV preventative programs in the past. This is not to suggest that studies focusing on women should be disregarded. This dissertation is therefore about the development of a culturally tailored and contextually sensitive behaviour change intervention designed for young men.

The population selected for study were young men between the ages of 18 and 35 from the South African province of KwaZulu-Natal (KZN). This province was chosen because over the past 15 years it consistently had the highest HIV infection rates in the country (Human Sciences Research Council, 2018; Shisana et al., 2014; Shisana et al., 2004). The aim of the current study was to first understand the determinants of risky sexual behaviours then to secondly evaluate the effectiveness of a health behavioural intervention aimed at reducing risky sexual behaviours. These risky sexual behaviours were not measured directly but evaluated through their respective intentions since intention has been shown to be the proximal antecedent to behaviour. It was hypothesised that the intervention would positively affect the determinants of intention (attitude, subjective norm and perceived behavioural control) and therefore positively influence the respective health behaviours associated with that intention, which were (1) non-condom use, (2) not testing for HIV, (3) reduction of alcohol and drug use, (4) avoiding sex when personally intoxicated, and (5) avoiding sex with intoxicated people. Empirical studies have shown that interventions that modify the psychosocial determinants of intention are effective in promoting health behaviour change (Sheeran et al., 2016). This chapter highlights aspects in the prevalence of HIV that make it necessary to consider men as a target point for health behaviour interventions, gives a background on the process of behaviour change and the need to identify factors that cause risky sexual behaviours. These identified factors can then function as targets for educational interventions.

HIV prevalence and men's behaviour in context

The research for this dissertation was conducted in KwaZulu-Natal province on

the eastern coast of South Africa. It is the second most populated province with 11.4 million people. Nearly 5 million people are between the ages of 15 and 39 (Statistics South Africa, 2018). The most widely spoken language in KwaZulu-Natal is isiZulu. This province has the highest HIV infection rate in the country at 18.1% (Human Sciences Research Council, 2018). The two study areas (see Figure 1) were a peri-urban locale about 30 km from the coastal city of Durban called Clermont and a rural village about 250 km north of Durban called Nkungumathe. Clermont is a densely populated area including approximately 31600 households with a majority Black African population. Only 32% of the residents was employed. Housing infrastructure was characterized by a mixture of free-standing dwellings, shacks, and hostels covering a small area of about 13 km^2 (Statistics South Africa, 2003). The shacks and hostels are indicative of the migration that is common in South Africa between rural and peri-urban areas. People usually come to the peri-urban centres like Clermont in search of employment opportunities, they usually end up living in informal settlements and migrate a few times a year between urban and rural homesteads (Kok, O'Donovan, Bouare, & van Zyl, 2003). Nkungumathe area had a minimal road infrastructure in 2010/2011 when the data were collected. The infrastructure in this area was characterized by sparsely located rural dwellings spanning a vast hilly topography. The majority of the housing structures were a combination of mud, thatch, brick and stick and only a few houses were constructed of brick and tiles. Less than 10% of the residents were employed at the time of the survey. To date, the physical and social circumstances have not changed much from the situation described above.

Figure 1: Map of South Africa showing provinces, KZN in red, peri-urban study area in yellow, rural study area in blue. Source: By TUBS -https://commons.wikimedia.org/w/index.php?curid=17455590

HIV is one of the leading public health problems in South Africa. It was estimated that at least 293 166 people died from AIDS related causes in 2006, which is recorded as the highest number of AIDS related deaths to date. From 2007 onwards there has been a decline in AIDS related deaths down to 115 167 in 2018, largely due to the roll out of antiretroviral therapy (ART) in 2005 (Statistics South Africa, 2018). An understanding of HIV transmission in KZN province with the highest infection rates has implications for altering epidemic trajectories in the rest of South Africa (McKinnon & Karim, 2016). Results from the latest South African national HIV prevalence survey suggest that men are the key drivers of the HIV epidemic (Human Sciences Research Council, 2018). The evidence to support this is seen in a number of risky sexual behaviours men engage in such as non-condom use, not testing for HIV, and excessive alcohol intake which leads to impaired judgement in sexual decisions.

Male condom use is still not as widespread as it ought to be. Condom use has been shown to be associated with a number of determinants over the years and more recently studies show that among young women, male condom use is associated with delayed sexual debut and HIV communication programs promoting safer sexual practices (Ntshiqa et al., 2018). For example, it has been reported that heterosexual couples who express higher sexual communication self-efficacy are also more likely to use condoms consistently (Leddy, Chakravarty, Dladla, de Bruyn, & Darbes, 2016). What is alarming though, is that being on ART and having undergone voluntary male medical circumcision is associated with more risky sexual practices and these include non-condom usage (Eisele et al., 2008; Wang, Feng, & Lau, 2016). It therefore stands to reason that more research should be done on the determinants of condom use so as to develop well targeted interventions.

Also, even though multiple sexual partnerships among young males have declined, they still remain relatively high (Human Sciences Research Council, 2018). There are a number of predictors for multiple sexual concurrency among men, which include economic resources that help fuel and maintain this behaviour (Ragnarsson, Townsend, Ekström, Chopra, & Thorson, 2010), suspicion of partner infidelity (Onoya, Zuma, Zungu, Shisana, & Mehlomakhulu, 2015; Ragnarsson, Townsend, Thorson, Chopra, & Ekström, 2009), never having tested for HIV, alcohol misuse (Mlambo, Peltzer, & Chirinda, 2018), and age, showing that younger men have on average more sexual partners (Onoya et al., 2015). The behaviour of multiple sexual partnerships seems to be intertwined with both contemporary and traditional notions of masculinity wherein peer acceptance together with peer encouragements seem to play a big role in maintaining this behaviour (Do & Meekers, 2009). Communities where these men reside seem to tacitly encourage this behaviour. Looking at this phenomenon of multiple concurrent partnerships from the women's perspective it has been shown that being an older woman or never had been married or experiencing economic abuse within a relationship were

found to be significant predictors of perceived male partner concurrency but this concurrency was not found to be significantly associated with incident HIV and sexually transmitted infections (STI) (Gaffoor, Wand, Street, Abbai, & Ramjee, 2016). The latter study assessed male partner concurrency as perceived by the female partners who were asked if they were aware of their male partners as having other sexual partners. The men were not asked.

It has been previously reported that on average men test for HIV far less than women do and this is partly associated with women accessing health care facilities more due to reproductive health purposes (Van Heerden, Msweli, & Van Rooyen, 2015). The masculinity norms traits associated with not testing include the fear of being perceived as vulnerable when accessing health care. Also, the fear of compromising the status of the man as the provider of the family should the results be positive and the fear of losing sexual successes with women seem to play a role (Fleming, Colvin, Peacock, & Dworkin, 2016; Sileo, Fielding-Miller, Dworkin, & Fleming, 2018). The fear of threats to men's position in society are linked to how men behave in public and how they interact with the opposite sex or their peers but most importantly men seem more attuned to how the social environment judges these public behaviours (Fleming, Diclemente, & Barrington, 2016). These behaviours associated with masculinity norms influence decisions that impact on HIV health outcomes such as the decision to use condoms or not or to engage in multiple sexual partnerships. These barriers continue to contribute to fewer men not knowing their HIV status and not accessing the care needed to keep them virally suppressed in the event they are HIV positive.

Another phenomenon that contributes to increased HIV infection rates is older men getting into sexual relationships with younger women. Studies show that men in these kinds of relationships are less likely to use condoms, less likely to know their HIV status, and exercise economic power over the young women (Evans, Maughan-Brown, Zungu, & George, 2017; Evans et al., 2016). These behaviours of multiple sexual partnerships, not testing for HIV and engaging in sexual relationships with younger women make it dire for public health professionals to gain a better understanding of the drivers and context of such behaviours.

Alcohol abuse and the use of illicit drugs such as marijuana also contribute to risky sexual behaviours. Alcohol has been linked to multiple sexual partnerships, unprotected sex and alcohol drinkers are more likely to be HIV infected than non-drinkers (Woolf-King & Maisto, 2011). The mechanism by which alcohol and illicit substances such as marijuana influence risky behaviour is through their effect on executive control functions which are inhibitory control, planning, time estimation and decision making (Lee, Oleson, Diergaarde, Cheer, & Pattij, 2012; Pattij, Wiskerke, & Schoffelmeer, 2008).

In order to further examine how masculinity traits impact on health behaviours, the current study also developed and tested measures that relate to the concept of responsible manhood. In developing these measures for the responsible manhood, we drew from the concepts that men are still expected by their communities to raise the resources needed to eventually pay *lobola* (bride wealth) at a time when they decide to get married. Additionally, we also constructed this concept of a responsible man by discouraging behaviour towards hurtful interpersonal violence against female partners. Therefore, the responsible manhood measures speak to men providing supportive roles to their partners and discourage men from engaging in physically hurtful behaviours towards their partners.

Designing health behavioural interventions that are culturally sensitive has been emphasized for a long time (Wingood & DiClemente, 1992). Studies have shown that HIV prevalence disproportionately affects different communities (Hall et al., 2008). Some of these differences have been attributed to the cultural context in the sense that the same preventative educational messages do not have the same desired outcome when administered to different communities. Evidence shows that HIV prevention interventions are better received when messages, pictures, video material and the language is tailormade to the intended community (Williams, Wyatt, & Wingood, 2010). Having an in-depth understanding of the factors that motivate certain behaviours such as non-condom use is important but knowing the historical and socio-cultural context of the individual or communities and how these contextual nuances can interfere with HIV preventative strategies is proving to be more critical to developing more successful interventions.

The risky behaviours such as non-condom usage, not testing for HIV, use of alcohol and illicit drugs such as marijuana and engaging in sexual activities while intoxicated place men at heightened risk of HIV and STIs. Since it has been shown that men are the key drivers of the HIV epidemic, a better understanding of masculinity norms which help explain some of these behaviours and a concerted reduction in men's risky behaviours would positively impact on the HIV infection rates. Behaviour change seems to be one of the best possible routes to address this problem.

Behaviour change

The social ecological model (see Figure 2) is used widely to better understand the interplay between the individual and their environments as determinants of health behaviours (DiClemente, Salazar, Crosby, & Rosenthal, 2005; Ma, Chan, & Loke, 2017). According to the model, behaviour change can be influenced at different levels. The model is depicted as five level concentric circles where the centre represents the individual, the next level is interpersonal, then organizational, then community and outermost level is policy. Together all the levels need to be examined in order to correctly identify the determinants that contribute the most to risky behaviours

at the intra-individual level. Most importantly none of the levels should function in isolation (DiClemente et al., 2005). The delivery of healthcare, health seeking behaviour and access to health facilities are all intertwined in a complex manner throughout the multi-layered structure of the socio-ecological model. Although this dissertation primarily focused on the individual/intrapersonal level, it will become evident in the general discussion that the complexities of interactions among the different levels cannot be ignored.

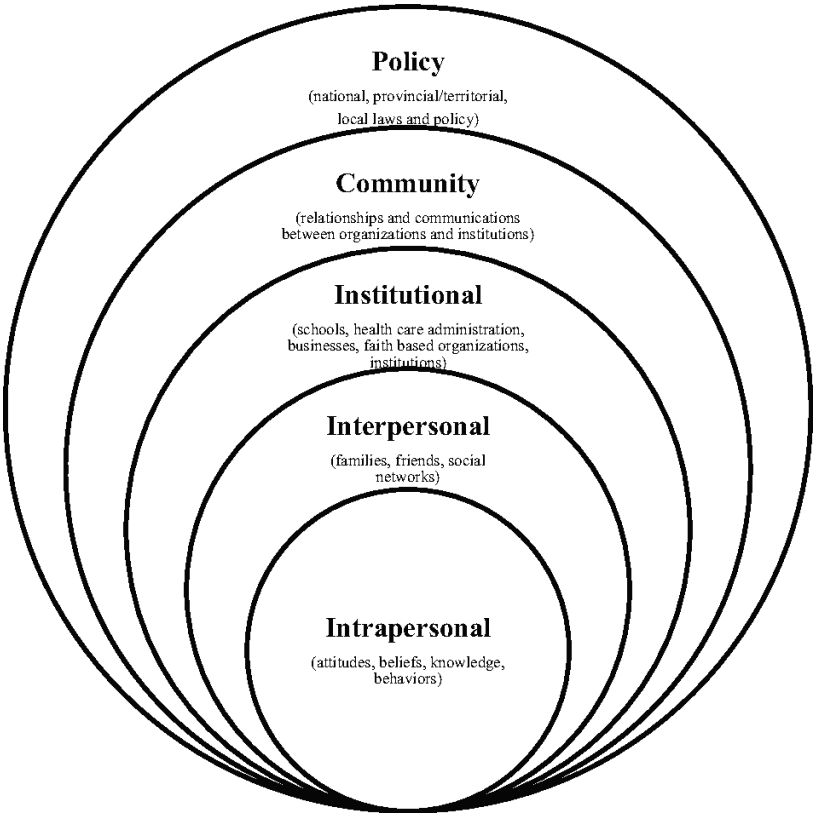

Figure 2: The Social Ecological Model. Source - (Ma et al., 2017).

A behaviour change framework such as Intervention Mapping (Bartholomew, Parcel, Kok, Gottlieb, & Fernández, 2011) posits that the more we understand the underlying determinants of what motivates a certain harmful behaviour, the better we are equipped to plan well targeted intervention programmes to promote behaviour change. There are many theories that have been put forward explaining behaviour and these span over many areas but the key theories used in the area of public health are the health belief model, the social cognitive theory, the theory of reasoned action, and theory of planned behaviour (Conner & Norman, 2015). What all these theories have in common is that there is a finite set of determinants that once fully understood can help predict behaviour. Behaviour towards or against something is driven by a set of actions and these actions are motivated by a set of

underlying reasons. These reasons are formed by the individual thoughts, emotions, automatic associations or elements of a process, which can exist in their individual states or can be aggregated with similar related thought to form what are called the determinants (Peters, 2014).

The health belief model proposes that people must first feel susceptible to the disease in question and they also need to believe that taking preventative action against the disease outweighs any perceived barriers they may have (Janz & Becker, 1984). The social cognitive theory proposes that a persons must believe in his or her own capability (self-efficacy) to perform a specific behaviour and the positive outcomes of performing that behaviour must outweigh the negative outcome expectations (Bandura, 1989). The theory of reasoned action proposes that intention to perform a behaviour is the most important variable that can predict whether a person is likely to perform the behaviour or not. Intention in turn is influenced by two determinants: attitude or the costs and benefits towards performing the behaviour together with subjective norms which is normative pressures exerted on the person to perform the behaviour (Fishbein & Ajzen, 2010). Since the theory of reasoned action was limited to volitional behaviours, an extension was added to incorporate considerations of perceptions of control, the additional determinant is perceived behavioural control. This is what led to the development of the theory of planned behaviour (see Figure 3) which is an extension of the theory of reasoned action. The theory of planned behaviour therefore has a broader scope of applicability to include behaviours that are dependent on the performance of a complex series of other behaviours (Conner & Norman, 2015).

The developers of the leading behavioural theories held a meeting in 1991 in order to identify a finite set of variables that can be considered in any behavioural analysis. The seminal paper that was a result of that meeting explains that there are at least eight determinants that are responsible for explaining most of the variance for any deliberate behaviour (Fishbein et al., 2001). These eight determinants are intention, environmental constraints, skills, anticipated outcomes (attitude), norms, self-standards, emotion, and self-efficacy. The first three determinants are believed to be sufficient for producing any behaviour while the last five are believed to influence the strength and direction of the intention. In order for a behaviour to be realised there should be a strong positive intention, no environmental constraints that prevent it, and the person should have the necessary skills and the belief that the positive outcomes of performing the behaviour outweigh the negative outcomes (attitude), there should be a perception of normative social pressure to perform the behaviour (subjective norm), the behaviour should be aligned with the person's self-image, there should be a positive emotion towards performing behaviour and lastly the person must have self-efficacy to carry out the behaviour in question (Fishbein et al., 2001).

The current study adopted the theory of planned behaviour as the guiding framework because this is one of the most widely used social cognitive theories in understanding health behaviours. Using this theory, the study attempted to identify the target determinants that impact most on intention so that these determinants can be addressed by the health behaviour intervention. The theory of planned behaviour does not give methods for behaviour change but can assist to understand the specific variables that need to be changed (Fishbein & Ajzen, 2010).

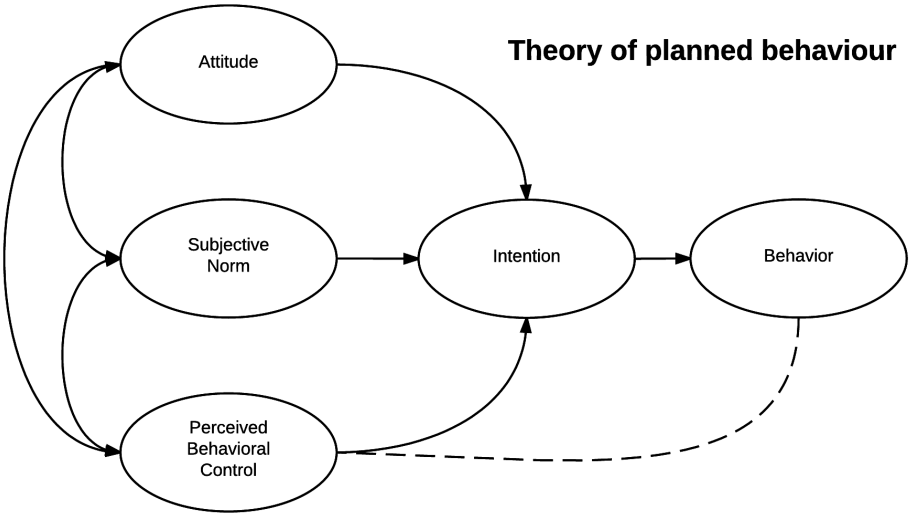

Figure 3: Illustration of Theory of Planned Behaviour (Ajzen 1991).

Description of the theory of planned behaviour model

According to the theory of planned behaviour, behaviour is a linear regression function of behavioural intention and perceived behavioural control (B = BI + PBC). Intention and behaviour have been shown to have a direct relationship whereas PBC can influence behaviour either directly or indirectly through intention (see Figure 3). Behavioural intention is a linear regression function of attitude, subjective norm and perceived behavioural control (BI = A + SN + PBC). It should be noted that just as much as behavioural intention has these three determinants, the three determinants themselves each have their own determinants. Attitude is made up of behavioural beliefs that the behaviour leads to certain consequences together with the evaluations of the consequences. Subjective norm is made up of normative beliefs that important people think that one should perform the behaviour together with the motivation to comply with those beliefs. Perceived behavioural control is made of the likelihood of occurrence of a particular barrier together with the inhibiting power of that particular barrier. It is these salient beliefs that play an important role in determining behaviour.

Extending the theory of planned behaviour

The theory of planned behaviour has been used to investigate a wide range of behaviours such as protective behaviours (supplement use, blood donation, sun protection), risk behaviours (alcohol use, illicit drug use, smoking cessation), and detection behaviours (cervical and breast cancer screening) (Conner & Norman, 2015). The TPB has been able to explain varying proportions of the variance in intention and behavior with different cognitive measures contributing differently for the given studies. In many of these studies, the theory was extended to include variables that were expected to increase the predictive capabilities. These additional variables are broadly divided additional factors (past behaviour, behavioural expectations, anticipated regret, personal identity, moral norms and descriptive norm) and behavioural options (Collins & Mullan, 2011; Conner & Armitage, 1998; Cristea, Paran, & Delhomme, 2013; Moan & Rise, 2011). In a meta-analysis of TPB interventions covering 82 articles reported on 123 interventions (Steinmetz, Knappstein, Ajzen, Schmidt, & Kabst, 2016), a few key things were noted: the effect size for changes in the cognitive constructs (attitude, subjective norm, perceived behavioural control, intention, behavioural, normative and control beliefs) ranges between .14 and .68, for changes in behaviour the mean effect size was .5. Furthermore, interventions conducted in public with groups were more effective than those conducted in private for individuals; and gender, education and behavioural domain are moderators for intervention effectiveness. In another comprehensive meta-analysis of TPB interventions covering 204 experimental conditions that sought to change attitude, norms and self-efficacy (Sheeran et al., 2016), it was reported that changes in these determinants led to medium sized changes in intention (attitude: d = .48; norms: d = .49; self-efficacy: d = .51) and small to medium sized changes in behaviour (attitude: d = .38; norms: d = .36; self-efficacy: d = .47).

Outline of the thesis

This dissertation is presented in two parts: Part one is an attempt to understand the psychosocial determinants of risky sexual behaviours. Part two of the dissertation reports on the effects of the health behaviour intervention to reduce risky sexual behaviours by addressing the determinants of the sexual risk behaviours. Chapter 2 is trying to understand the concept of manhood and how it relates to men's perspectives on love, sexual relationships, and how relationships are formed. Chapters 3, 4 and 5 explore the psychosocial determinants at pre-test for risky behaviours of sexual relationships in the context of alcohol or illicit drugs, non-condom use and not testing for HIV. This was necessary in order to get a snapshot of what the men's views were prior to the experiment and control conditions being administered. Chapter 3 looked at the psychosocial determinants that influence intentions to avoid sexual intercourse when one is personally intoxicated or when

their partner is intoxicated. Chapter 4 examined the psychosocial determinants that influence intention to use condoms. Chapter 5 examined the psychosocial determinants that influence intention to test for HIV. The behaviours corresponding with the above-mentioned psychosocial determinants are correct and consistent condom usage, getting tested for HIV, reducing alcohol and drug intake, avoiding sex when personally intoxicated and avoiding sex with an intoxicated partner. It was hypothesised that the proximal psychosocial determinants of attitude, subjective norm, perceived behavioural control together with other determinants of demographic variables, responsible manhood, knowledge and past behaviour would uniquely contribute to the variation in intention. Chapter 6 details the adaptation, development, and testing of the behavioural intervention. Here we evaluate to see if there was any difference between the pre-test and the post-test measures after the participants had gone through the experiment and control conditions to evaluate if there had been any positive changes in the psychosocial measures over time. The final chapter is the general discussion on what all these findings mean and proposes recommendations.

CHAPTER 2

2

'Feeling under pressure': Perspectives on the meaning of love and sexual relations amongst young men in KwaZulu-Natal, South Africa

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Abstract

This study aimed to explore perspectives on the meaning of love and sexual relations amongst young men in KwaZulu-Natal province of South Africa. Gaining insights into these perspectives will help to understand the sexual behaviours of these young men better and to eventually develop more effective HIV prevention interventions. Focus group discussions were conducted in two study areas using a pre-determined semi-structured discussion guide. The findings indicate that the phenomenon of romantic relationship try-outs together with the idea of 'feeling under pressure' to propose love to more than one woman seem to be accepted practices that often lead to multiple concurrent sexual partners and therefore potentially risky sexual behaviours. The fear of impregnating a woman is seen to be of a more significant concern than acquiring a sexually transmitted infection due to the stigma and embarrassment associated with pregnancy outside marriage. Given these findings, it is recommended that future studies investigate perspectives on sexuality and reproductive health in male populations in great detail prior to the development of behavioural change interventions because failure to do so may hamper well-intended but poorly targeted health interventions.

Introduction

The human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) epidemic remains one of the leading public health priorities in Sub-Saharan Africa despite more than two decades of efforts in an attempt to curb the spread. In 2016 the prevalence of HIV in the South African general population was estimated at 18.9% (UNAIDS, 2017), but varies between the different provinces with KwaZulu- Natal (KZN), the locale for this study, having the highest at 30% in the 15 – 49 age group (Shisana et al., 2014). Many interventions have been implemented across sub Saharan Africa (Igumbor, Pengpid, & Obi, 2006; Kalichman, Cain, Eaton, Jooste, & Simbayi, 2011; Kalichman et al., 2008; Mathews et al., 2012; Morojele et al., 2014; Ousman et al., 2016; Sankoh, Arthur, Nyide, & Weston, 2014) and even though there is some shift in people's beliefs, norms and practices around issues of sexuality, romantic relationships and overall sexual behaviour, much more work still needs to be done in this area (Coates, Richter, & Caceres, 2008). Risky sexual behaviours such as inconsistent and incorrect condom use, engaging in sex while drunk or under the influence of illicit drugs as well as engaging in multiple concurrent partners behaviour continue to persist to cause new infections (Davis et al., 2016; Jama Shai, Jewkes, Levin, Dunkle, & Nduna, 2010; Turner et al., 2009; Yamanis et al., 2013). What is clear though is that interventions that promote male partner involvement in prevention of mother to child transmission (PMTCT) and those that promote adherence to anti-retroviral therapy (ART) show better outcomes in morbidity and mortality (Kalichman, Cherry, White, et al., 2011; Mashaphu, Burns, Wyatt, & Vawda, 2018). Furthermore, interventions that seek to remove some of the structural barriers to testing result in more people testing overall and connecting more people to care programs. Other HIV/AIDS research in South Africa thus far has focused on gender inequalities and violence against women (Gibbs, Jewkes, & Sikweyiya, 2015; Jansen van Rensburg, 2007; Jewkes, Levin, & Penn-Kekana, 2003; Jewkes & Morrell, 2010; O'Sullivan, Harrison, Morrell, Monroe-Wise, & Kubeka, 2006; Sikweyiya, Jewkes, & Dunkle, 2014), and identifying social-cognitive determinants of risky sexual activities (Boer & Mashamba, 2007; Jemmott et al., 2007; Peltzer, Matseke, Mzolo, & Majaja, 2009; Tabana et al., 2012). From as early as 2008, there has been a call to shift towards an approach that explores sexual context as a key factor in defining sexual relationships, love, and intimate partnerships in at-risk populations (Gupta, Parkhurst, Ogden, Aggleton, & Mahal, 2008). The sexual context is a multifaceted menagerie that incorporates structural, political and economic as well as cultural influences on human behaviour that need to be considered by interventions targeting risky sexual behaviour (Parker, 2001). In the case of South Africa, a country in transition after a traumatic history of Apartheid and oppressive migratory labour practices, it is critical that social and sexual context be investigated to understand their contribution to the spread of HIV amongst local communities.

One example of the relevant social contexts is the association between the spread of HIV and migrants which has been well documented in the South African context (Lurie et al., 2003). This migration within South Africa was a result of repressive laws which forced African people to be confined mainly to rural areas (Kok et al., 2003). This rural banishment could only be temporarily sustained since there was a growing demand for labour in the South African mines and factories. Migratory restrictions therefore partly contributed to the dismantling of African families where men were forced by circumstances to leave women to rear the children on their own in the rural areas (Reed, 2013). The contemporary sexual culture in South Africa is to a large extent influenced by this historical context (Leclerc-Madlala, 2002). It has been reported that decreased levels of social support and family separation have also been associated with HIV risk (Weine & Kashuba, 2012). This separation over extended periods had considerable influence on both men and women finding new sexual partners thereby contributing to the phenomenon of multiple and concurrent partners (MCP) which has been defined as overlapping partnerships where sexual intercourse with one partner occurs between two sexual acts of intercourse with another partner (Shumba, Mapfumo, & Chademana, 2011). This oscillating type of migration between urban and rural, between employment and homesteads, provided an enabling environment to the spread of HIV since the virus follows the movements of people (Lurie et al., 2003).

Some of the research examining the psychosocial determinants of risky sexual practices includes socio-contextual sexual practices, such as age-discrepant partners whereby young girls engage in sex with men who are much older than them, and more recently MCP (Adimora, Schoenbach, & Doherty, 2007; Epstein & Morris, 2011; Evans et al., 2016; Mah & Halperin, 2010; Tibesigwa & Visser, 2015). These factors show an association with HIV infection rates and researchers agree that this relationship does not infer causality. More work is required to understand what motivates these sociocultural dynamics.

The HIV epidemic in South Africa is predominantly driven by heterosexual risk behaviours where MCP is listed as one of the leading risk factors for transmission (Mah & Halperin, 2010). In South Africa where polygamy is practiced, it is not surprising that polygamous marriages and MCP are often conflated not taking into account that the type of marriage characterised by multiple partners is much more regulated by societies where this practice is common (Gausset, 2001). MCP among certain groups has been reported to be neither driven by a shortage of men nor an oversupply of women but by social factors such as lack of trust in partnerships and structural factors which are predominantly economic (Carey, Senn, Seward, & Vanable, 2010). This lack of understanding often influences current perceptions where a practice such as polygamy, which is cultural or context-specific is viewed as something to be discouraged without an understanding of the meanings attached. As a result, interventions aimed at addressing MCP can be rendered ineffective due

to poor understanding of contextual drivers.

Ogolsky (2016) reported that a lot of the research about dating couples assumes that relationships are formed in the same manner across individuals (Ogolsky, Surra, & Monk, 2016). Meaning that the search for an ideal partner is the universal driving force, but the characteristics of what is defined as ideal differ across cultures (Buss et al., 1990). Buss et al. (1990) reported that characteristics such as chastity, good housekeeping, desire for home and children, education and mutual attraction were not only influenced by cultural beliefs but also reported differences between men and women. The pivotal decision to choose one romantic partner over others should be viewed from the social-ecological framework with the premise that human development evolves through interactions with the social environment.
The prevailing societal norms will contextually guide behaviours and choices regarding romantic relationships. Exploration of the role of these norms in defining essential constructs such as love and sexual relationships is thus critical when thinking about ways to reduce the HIV/AIDS epidemic.

In this paper, romantic relationships are defined as "mutually acknowledged ongoing voluntary interactions, commonly marked by expressions of affection and current or anticipated sexual behaviour" (Collins, Welsh, & Furman, 2009 p.632). In South Africa, contemporary notions of romantic relationships collide with more traditional lifeways and are influenced by migratory patterns between urban and rural locales. In KwaZulu-Natal, for example, traditional practices such as *umhlonyane* and *umemulo* are still widely practiced in urban areas. Both these practices are rites of passage rituals for girls that involve a communal celebration that includes slaughtering of an animal to give thanks to the ancestors for the girl reaching her growth and maturity milestones. It would, therefore, be more informative if research into romantic relationships among the African population in South Africa is viewed in the context of these traditional practices which confirm the constant juxtaposition of urban and rural ideologies. Additional to this context is the systematically broken family units and the dysfunctionality arising from that (Holborn & Eddy, 2011). As much as the remnants of this complicated history bear heavily on the social and sexual contexts, they do not remove personal agency and choice. The very high levels of rape, intimate partner violence and shifting masculinities are some of the examples of this social dysfunction (Hatcher, Colvin, Ndlovu, & Dworkin, 2014; Luyt, 2003; Lynch, Brouard, & Visser, 2010; Ratele, 2008; Wood, Lambert, & Jewkes, 2007; Wood & Jewkes, 1997). Coupled to this, research has also reported that young people choose to keep their sexual activities a secret for fear of being stigmatized, which impedes open discussions about topics related to sexuality and reproductive health (Harrison, 2008). It has been reported that young people wrestle with contemporary notions of romantic relationships. For example, material gain is believed to be more important for girls (Ranganathan et al., 2017) while boys prefer rural over urban girls since rural girls are perceived to

be more conservative and still be virgins (Bhana & Pattman, 2011). In KZN, studies report that the dominant masculine perceptions were those of the male as a provider and MCP behaviour being positively rewarded by the community for men and negatively for women (Hunter, 2002, 2005).

Given that the social and sexual contexts of romantic relationships in South African populations are associated with partner violence, long distance partnerships, the influence of traditional practices and multiple concurrent partnerships, more research is still required to gain insight into how they are all interrelated. This study aimed to explore the meaning and understanding of love and sexual relations amongst young men in both the rural and the urban context and how these perspectives shape their perceptions about intimate romantic relationships as well as their notions on MCP and unplanned and unwanted pregnancies.

Methods

Study Setting and Sampling

This study formed part of a preliminary process of adapting a life skills intervention targeting men in two areas in KwaZulu-Natal. The intervention was to target risky sexual behaviours such as no and inconsistent condom use, multiple partnerships, sexual activities when drunk and also encourage supportive male roles in relationships. It was essential that this intervention is adapted for the local context not only regarding language but also be culturally sensitive. One location was a peri-urban area about 30km from the city of Durban while the other location was a deep rural village in the northern part of KZN, approximately 250 km from Durban. Four focus group discussions (FGD) were conducted, two in each study area. Each focus group consisted of 8 to 12 participants, with a total of 38 participants. The criteria for inclusion were males, between the ages of 18 and 35, isiZulu speaking, and the participants were required to be residents of the site under study. These discussions were conducted at community centres in the respective areas at a time most convenient for the participants. The FGDs were conducted using a pre-determined semi-structured discussion guide adapted from a previous study among soon to be released prison inmates in KZN and Mpumalanga provinces in South Africa (Sifunda et al., 2006).

Data Collection

A purposeful sampling method was used where community leaders were instrumental in assisting in recruiting members of the community to participate in the focus group discussions. The discussions were organized around the following pre-determined themes:

- Meaning and understanding of manhood in the community
- Meaning and understanding of love and sexual relationships
- Cultural norms and perceptions of love and sexual relationships

- Views on relationships, women, sexual partners and fatherhood.
- Views on gender-based violence and interpersonal violence
- Views on multiple concurrent partners
- Perceptions of health risk including HIV/STDs among young men

The focus group discussions were conducted in community halls in the two selected study areas. Discussions were facilitated by two people, one interviewing while the other took notes. All focus group discussions were conducted in isiZulu by a team of trained isiZulu first language speakers. IsiZulu is the most widely spoken language in South Africa and is the language most spoken in the province of KZN. All focus groups were tape-recorded with digital recorders, after which the audio files were downloaded onto computers and then transcribed verbatim (Patton, 2002). Facilitators also kept field notes during the discussions for additional data gathering. Ongoing analysis of transcripts and interviewer field notes were utilised to determine saturation point of data collection. The discussions were transcribed by the same team and then translated into English. To ensure accuracy, the transcripts were back-translated into isiZulu by another team of isiZulu speaking research assistants, originally from the areas where the research was being conducted, who therefore were familiar with local dialects. The lead author and two of the co-authors are proficient in isiZulu and were responsible for monitoring the entire process of instrument development and data gathering.

Data Analysis

The qualitative data management software ATLAS.ti (version 7) was utilized for coding the collected data. The method of analysis followed on the principles of transcendental realism which, recognizes that it is difficult for researchers to completely abandon any pre-existing experiences or theories for fear of contamination but instead, the method encourages researchers to incorporate them. The interviews were analysed by reading the transcripts multiple times in order to gain a sense of the flow of the discussion (Miles & Huberman, 1994). After that, each transcript was coded independently by three members of the research team. The first step of the analysis captured the manifest content of the interviews - the surface-level presentation of topics. Codes were independently identified then compared, and where similar, combined into single categories through consensus discussions. The second step produced sub-themes or major categories that were inductively synthesised from the first step. Through a process of constant comparative analysis, relationships among the primary codes were integrated and condensed into the final emergent themes. This study received full ethical clearance from the South African Medical Association Research Ethics Committee (SAMAREC- Protocol MRC 1-09) which works according to the guideline of the Helsinki Declaration on ethical aspects in human experimentation. Additional permission was also granted by the local municipal offices and the traditional leadership in the areas concerned. Participants gave written informed consent to participate in the study by signing

the consent form after it was sufficiently explained to them by the research team.

Results

Four focus groups discussions were conducted, two in the rural area and two in the peri-urban area. All the participants interviewed described themselves as heterosexual, and nearly all were unemployed. The rural participants had the ages ranges of 18 – 25 (mean=20.6) and 18 -35 (mean= 24.4) respectively, while the peri-urban participants had the age ranges of 18 – 25 (mean = 22.6) and 18 – 29 (mean = 23.8).

The peri-urban area is roughly 30 km from Durban with a majority African population. It is densely populated at about 12.95 km^2 with approximately 31600 households and had only 32% of the residents employed. The housing infrastructure is characterised by a mixture of free-standing dwellings, shacks, and hostels covering a small area (Statistics South Africa, 2003). The shacks and hostels are indicative of the migration that is common in South Africa between rural and urban areas. People come to the urban centres in search of employment opportunities, they usually end up living in informal settlements and migrate a few times a year between urban and rural homesteads (Kok et al., 2003). The rural area is approximately 250 km from Durban, also with a majority African population. The rural area was approximately 8.66km^2 in size with about 178 households indicating a sparsely populated settlement. There was minimal road infrastructure in 2010/2011 when the data was collected and it made it hard to access all the men who could have been eligible to participate in the study.

Included in this section are the six themes from the analysis; Meaning of love, sexual relationships, multiple concurrent partners, perceptions of manhood, perceived societal pressures and lastly gender roles and division of labour. Together all these factors interact to influence risky sexual behaviour among the participants. In the analysis, the term 'most' was used largely to describe consensus indicating that more than half of the participants shared the same sentiments. Since this study is qualitative in nature and it is not a representative sample of the population, it was decided not to use percentages.

(1) Meaning of love

Despite the differences in life experience and age, as well as living in the rural and peri-urban areas, all the men interviewed explained that the foundations of romantic relationships for them is love. They described the isiZulu expression for when a man proposes love for a woman. The phrase is *ngiyakuthanda* which literally means *I love you* as opposed to for example *I like you*. This expression is saved for and only used when a man wants to propose a romantic relationship to a woman. It is not used in a neutral context when a platonic relationship is proposed.

Participants also described interesting notions of love such as emotional feelings of love interconnected with a physical attraction.

'It's the way we treat each other, although maybe it can be sex that we do right but we treat each other very special'

Rural participant

There is this thing called random search it is where you scrutinise which girl you want by looking at the features. Some girls you will find they are beautiful but lack good manners.

Urban participant

Most participants mentioned that physical attributes of potential partners also played a vital role in defining the nature of the relationship and even the way that they will get treated. They emphasized the qualities such as respect and good manners being key in their decision to start a romantic relationship. It was important for them to see that this person would not embarrass them before they could introduce them to friends or family.

With love we look at the qualities. Love is not about sex at all, you must not love a person because you had sex together.

Urban participant

Love is a deep feeling, it wakes you up in the early hours of the morning thinking about that person. That is the proof that you really love that person.

Rural participant

It was clear from the discussions that the participants could distinguish what they perceived to be casual relationships from what they thought could be potentially longer enduring commitments. There seemed to be some criteria they followed although this appeared to be more subjective to the individual concerned. When it came to what the participants considered to be real love, there seemed to be a general consensus that there was a yearning to experience that.

(2) Sexual relationships

Most participants expressed a level of distrust that they had against their partners in their respective relationships. This distrust seemed to be felt in their primary relationships as well as in the other relationships they had in multiple concurrent partnerships. The participants also had very strong perceptions that their partners did not trust them in turn. There was a general feeling among the participants that in their respective relationships they were aware of or suspicious of the existence of other sexual partners. It should be emphasised here that these views are from the men only and that the women were not interviewed.

I can say I do not love them equally because the other one stays very far from me, so that leads to the fact that I am not sure how she behaves where she is staying. So that makes me to be not sure as well about her because now there are diseases that can put me at risk, because I do know now as I am sitting here what she can be doing there.

Rural participant

Most participants expressed that as part of the preparation for marriage they had to have more than one woman as a form of screening potential women for marriage at a later stage. This can be likened to having romantic relationship try-outs. The woman who somehow comes out as the best through this screening process will eventually be the one who is chosen to become a wife. The existence of other girlfriends is also seen as a way to create competition amongst girlfriends so that the winner eventually gets chosen to become a wife.

No, for me I can say I love my girlfriends although I don't love them equally.

Urban participant

Maybe the one I love the most is the second one. In addition, the second one I can say she had moods, she was acting as if she is the one I love most. I ended up believing her the way she loves me but I had come to a situation where I decided to have another girl. The third one I was just trying to close the gap not because I love her but because I was trying to close the gap

Rural participant

For the participants who identified as having multiple romantic relationships there did not seem to be a concerted effort to hide this behaviour from their respective partners. There did not seem to be any fear of being found out nor was there a mention of any repercussions should the partners who didn't know somehow find out.

I have four girlfriends but I do not have a child with any of them. Three of them are in the same school. The two know each other others don't.

Rural participant

(3) Multiple concurrent partners

The majority of the participants described being involved in multiple concurrent sexual partnerships while only two participants spoke about having just one sexual partnership. The practice of multiple concurrent partners (MCP) is driven by reasons some of which cultural and others based on individual choices. The participants who had described themselves as having several sexual partnerships mentioned that when they came across a nice woman *opakile* (sexy), it was usually difficult to resist the urge to speak to the woman or to leave her to pass by because

they *'feel under pressure'* from physical attractiveness. This perceived 'pressure' as experienced by the participants is what they gave as the reason for them to propose love to more than one woman at a time. The participants who practiced multiple partnerships described this 'pressure' as being so overwhelming that they were unable to resist. The results of acting on this perceived 'pressure' that they spoke of leads to acquiring more women as romantic partners even though they had existing romantic partners. None of the other participants disagreed with these sentiments.

When you are walking on the street and you come across an extremely attractive woman you will feel under pressure ukuthi umshele (initiate a romantic relationship). When we were growing up we were always told that 'Intombi ayendlulwa' (you cannot pass a woman without complementing them on how nice they look)

Urban Participant /Rural participant

Participants who had multiple sexual partnerships alluded to certain idioms within their culture such as *'Intombi ayaliwa'* (dumping a woman is causing them bad luck). As a direct consequence of this widely held belief participants mentioned that they often hang on to relationships that they may no longer be interested in nurturing just to avoid the situation of having to end a relationship with a woman. This belief may lead to the unintentional practice of multiple concurrent partners.

The way we were brought up we have always been told that 'intombi ayaliwa' (dumping a woman is causing them bad luck) so that's what makes it hard to end relationships sometimes, so the best thing is just to disappear and stop calling her.

Rural participant

Additionally, feelings of insecurity about their positions in these relationships may have led to multiple concurrent partnerships.

One of the things that make us have many partners is that we are uncertain about the relationship we are in.

Urban participant

(4) Perception of manhood

All the participants mentioned the fear of being called *isishimane (sissy)* by their peers and friends in the community. *Isishimane (sissy)* is an extremely derogatory term that is used to stigmatise men who are seen to struggle with initiating romantic relationships with women. The best approximate translation is the word, sissy. It can be likened to calling a man 'not man enough' therefore viewed as one of the least favourable labels for a man to be called in this community. 'Not man enough' implies that one is not assertive or aggressive enough as a man ought to be in pursuing women, therefore, making one a 'nice guy' but with a very negative connotation attached. The 'nice guy' connotation in this sense is seen as negative

because even though a man may be popular with the women, if they do not act in a manner considered by their peers to be the required milestones in pursuing women, they would still be considered *isishimane (sissy).*

My problem is that in my family we are all boys and there are many of us. Therefore, I could not be the only isishimane in the family. We used to compete to see who can have the most girlfriends. So, if one brought a woman home all of us will be under pressure to match that and bring a woman the next time. We even had a 'list' to compare numbers.

Urban participant

(5) Perceived societal expectations

All the participants reported very strong underlying cultural values and expectations regarding the importance of the ability to have children within a marriage. This expectation is seen to put a lot of pressure on women to prove their fertility to their partners before getting married and thus can lead to women intentionally getting pregnant to prove that they can bear children.

You know what I can say is that the girls in this area they do not want to use condoms. I went to the other girl last night, and I was carrying condoms and when I tried to ask her that let us use condoms she refused she did not want anything to do with condoms. I said let us use condoms and she said no, I explained that they are helping not to get pregnant do you know that, but then she did not want to listen. I did not use the condoms and that worries me a lot, how I will be able to handle this.

Rural participant

Despite the apparent modernization amongst indigenous communities' certain cultural practices related to love, sex and marriage are still widely practiced and adhered to. Pregnancies before marriage are still widely frowned upon as evident in the continued existence of the payment of *inhlawulo (damages)* which is a fine for impregnating an unmarried young woman and is usually associated with shame and stigma amongst community members and is viewed as an embarrassment to both the boy and the girl as well as their families.

My parents have had to pay inhlawulo (damages) for all the three girls that I have made pregnant because I am still studying.

Rural participant

Furthermore, most of the participants expressed that some of the women *'trick'* them into impregnating them by saying they were on contraceptives when they were not. This perceived deception was spoken about with very strong emotions because it seems that the young men's reason for using condoms was solely for the avoidance of unwanted pregnancies. The participants expressed that what

typically happened was that they would as a couple use condoms in the initial stages of the relationship but once the woman confirmed that she was on some form of contraception the couple would in agreement stop using condoms. If the woman had lied and it turned out that she was not using any pregnancy prevention method the couple would be met with an unwanted pregnancy. There were no disagreements from the other participants.

After I got a job of being a driver I got a lot of girls but I make sure that I use a condom. I started to use the condom since 1998 until today I have a girlfriend of five years she always insists that we should go and test (so as to stop using condoms). I explained to her that I can't because since I did testis operation I might not be able to make kids.

Urban Participant

(6) Gender roles and division of labour

Historically one of the critical milestones signifying a transition from a boy into manhood was the ability to accumulate resources that can assist to first pay *lobola ('*bride price') for the intended wife and secondly provide a home for the future family. Men who were unable to fulfil these roles were traditionally viewed negatively. In the current study, there was an overwhelming sense of entitlement and ownership among the participants when it came to matters of *lobola*. Most participants felt that by them paying *lobola* this inherently bestowed upon them the authority to dictate the terms in their respective relationships and that any acquiescing when it came to couple decisions would emasculate them. The fact that they were in charge should not only be known by their partner but by the community in general so that their manhood could be asserted. None of the other participants disagreed with what was being said.

*If I am the one who pays lobola ('*bride price') *then my word should be final as in the (participant says his surname) household as the man I am in charge*

Urban participant

Participants also alluded to sometimes being ridiculed by community members of both genders when they did certain caring acts in their relationships that should typically be viewed in a more positive light. This somehow leads to males assuming the role of a negative masculine type in order to avoid being taunted for displaying what should usually be viewed as positive and healthy in a loving relationship. An example is when men accompany their female partners to the clinic for reproductive health purposes but get ridiculed for doing so. This is generally a very positive supportive role that should be encouraged, but the participants said that the taunting resulted in them stopping with this behaviour.

Sometimes when you try to treat your woman well by accompanying her to the clinic everyone will start saying you are trying to be a 'nice guy'. Even the nurses at the clinic will make fun of you and not allow you to come with your girlfriend into the consultation room

Urban participant

It came out of the interviews that some of the participants did not live with both parents and also alluded to the fact that their communities were not as closely knit as before.

Our fathers are not here they go and work in Johannesburg, so most people that are at home are the women they do not have time to stay together and discuss their problems.

Rural Participant

Discussion

This study aimed to get a better understanding of how young men view their romantic relationships and their perspectives on the meaning of love within these relationships. The study was part of a preliminary process that sought to develop and adapt a health behaviour change intervention to help address risky sexual behaviours contributing to HIV transmission in KZN. Given the history of oppression and forced labour migration in South Africa coupled with some of the highest incidences of sexual violence against women in the world, it is imperative that we learn more about men's perspectives on their relationships with women.

Romantic love in relationships is often characterised by the desire to be understood, respected, supported and trusted by the partner one is in this relationship with (Smith, Nunley, & Martin, 2013). These are just some of the qualities that people seeking companionship would hope to enjoy. However the expression of love interests varies across cultures where in the Western context there is a dating period where the word "like" is mostly used to be followed, after some time, by the word "love" should this relationship 'get more serious' (Ackerman, Griskevicius, & Li, 2011). More recently though there is a call to adopt 'romantic realism' in an attempt to foster a more pragmatic approach to the modern realities which contribute to high divorce rates globally (de Botton, n.d.).

In the population under study, the declaration of love does not have any accompanying verbal prelude as seen from the participants. This confession of love does not automatically imply a commitment to the woman pursued as the young men also talk intensely about this phenomenon labelled as romantic relationship try-outs in this study. Although it seems ubiquitous among the young men that this test phase is necessary, it does not appear that it is communicated to the intended

romantic partner. These try-outs open the door to more problems. Since culture dictates that it is bad luck to dump a woman, the participants find themselves trying out more than one romantic interest at any given time and therefore partly explaining the phenomenon of multiple concurrent sexual partners. MCP is further exacerbated by the perceptions from peers that one is a sissy if they have not yet started to engage in sexual activities or have not initiated romantic interests at a determined time in their lives.

As if the situation is not primed enough for risky behaviours, there is also the perception of 'feeling under pressure', which can be viewed as another justification for acting recklessly. Although previous studies report that dominant and prevailing masculinity norms contribute to risky sexual behaviour (Harrison, O'Sullivan, Hoffman, Dolezal, & Morrell, 2006), there is still a need to investigate the context of sexual interaction in more detail. Future research needs to elaborate more on the determinants and influences impacting on these gender roles to explain why men think that such behaviour is acceptable.

This phenomenon of romantic relationship try-outs may have some affinity to the concept of *isoka. Isoka* has been described as a term that was used to refer to an unmarried man who was popular among girls and engaged with multiple partners (Hunter, 2002, 2005). Although *isoka* is explained as being prominent in the earlier part of the 20th century there was evidence of a decline and a shift in how it was perceived by both women and men with the rise in *isoka lamanyala,* which means an undesirable form of *isoka* who played with multiple women without any intention of marrying any of them. This is because marriage along with certain initiation processes were seen as a rite of passage into manhood where a man would be expected to have the responsibilities of looking after his wife and children. The rise in HIV infections is believed to have played a role in this decline and change in perceptions about the term *isoka*. It should be highlighted that none of the participants from the current study mentioned the concept of *isoka* at any time during the focus group discussions. Given that this present study was conducted nearly ten years after the seminal work by (Hunter, 2005, 2006), it is possible that this concept could have evolved considerably. Future studies should explore the connection between polygamy and this more contemporary notion of romantic relationship try-outs. Is it possible that the principles guiding polygamy could have evolved first to create notions of *isoka* then later culminated into the new phenomenon of romantic relationship try-outs? The latter is characterised by taking on multiple partners without any intention of marriage but now perceived as normal because there is no social disparagement.

Certain terminology and use of language such as *isishimane* (sissy) may inadvertently lead to young people taking certain decisions due to the poor understanding of the context and origins of those words. The common misconception is that this

word is used to induce peer pressure from other men to force men to engage in MCP, but the hard reality is that even women can use this label on men to get them to act in a certain way. This study demonstrates that young men in these communities, sometimes engage in harmful relationship practices as a result of the various societal pressures that they may experience, such as the notion of a *'nice guy'* is viewed as a negative attribute. Some authors describe isishimane to be the opposite of *isoka* wherein the former is characterised by the inability to attract a single lover while the latter is the ability to play with multiple partners as explained earlier (Hunter, 2002, 2005; Leclerc-Madlala, 2002).

The idea that paying *lobola* ('bride price') bestows certain entitlements such as dictating the terms of a romantic relationship was observed among the participants. This is however not a surprising finding since previous research emphasizes the pivotal position of *lobola* ('bride price') in a man's life (Hunter, 2005). A man, therefore, can only be considered a real man by his ability to gather resources which can afford him to take a wife. This entitlement could also open a door for men to dictate unsafe sexual practices like refusing to use condoms as reported in previous studies (Campbell, Gibbs, Maimane, & Nair, 2008). In certain instances, it is the women themselves who feel disempowered to assert themselves in romantic relationships because *lobola* ('bride price') was paid for them (Cornman et al., 2011).

What was very interesting was the finding that fear of getting a woman pregnant was a much bigger concern to the participants than the potential of getting infected with HIV or other STIs. As a result, the young men stop using condoms once they feel that the risk of impregnating a girl has been eliminated. The cultural conundrum that unfolds in this present study is this: while the young men are still undecided about which woman they will eventually choose to marry, these same young men expect to engage in these romantic relationship try-outs with some of the women. On the other hand, the young women are expected to show that they are capable of bearing children yet they are not supposed to fall pregnant outside a committed relationship that will lead towards marriage.

A similar study investigating the contextual influences of relationships in young people in a KZN rural area reported that it was the young men who were more likely than young women to engage in multiple partner behaviours (Harrison, Cleland, & Frohlich, 2008). Most importantly, the authors discovered that these women were aware that their male partners had other romantic relationships. This means that if a behavioural intervention were to be developed for this community targeting risky sexual practices, it would have to address issues of multiple concurrent partnerships differently from conventional approaches. Before the development of this intervention, researchers will need to fully understand why men, for example, feel they cannot end relationships with their romantic partners, but most

importantly investigators need to comprehend what makes it acceptable in that society for men to engage in multiple sexual partnerships. Are these factors which promote MCP purely cultural or are they exacerbated by the contemporary urban context of better access to resources and the easier digital accessibility of potential sexual partners? The present study highlights certain social norms that have evolved whereby the stigma of an unwanted pregnancy carries more weight than acquiring an STI and where for men having multiple romantic partnerships seems acceptable. In another earlier study in Mpumalanga province of South Africa, it was reported that women were more likely not to use any contraception until after the first birth (Tollman, Kahn, Collins, & Ngwenya, 2001). The investigators alluded to the lack of access to health facilities as a possible reason for this. The expectations to show childbearing capabilities as found in the present study could be another factor that explains this phenomenon. Therefore, a limited understanding of sexual context can severely hamper well-intended health behaviour interventions. Similar to the findings of the present study, a recent study emphasises the importance of designing interventions that have a specific focus on the contextual level factors when investigating HIV, STI and risky sexual behaviour as this may assist to strengthen the evidence for causality (Ward-Peterson et al., 2018).

Some of the participants also alluded to fathers being absent due to work commitments much farther from the homestead. This father absence was due to the historical legacies of Apartheid's separate race group spatial planning that still has a lot significance on the present-day context. Africans were designated to live in the rural parts of the country and were forced to commute into the cities for work. It has been reported that childhood and adolescent development is positively enhanced by both parents participating in the upbringing of their children. In the absence of a father the differences can be seen in development where girls exhibit an earlier onset of menarche (Guardia, Nelson, & Lertora, 2014) and in boys there can be behavioural problems such a delinquency (Simmons, Steinberg, Frick, & Cauffman, 2018) or other risky behaviours such a substance use and multiple sexual partnerships (Alleyne-Green, Grinnell-Davis, Clark, Quinn, & Cryer-Coupet, 2016). The perceptions of love and sexual relationships as expressed by the participants of this study may be strongly influenced by parents being absent. Future research needs to investigate absent parents more closely in relation to the findings in this study and perhaps compare views from young men in absent parent homes versus present parent homes. A better understanding of how family dynamics affect perception of love and sexual relations can assist to develop more precise behavioural interventions against risky sexual behaviours.

Current global HIV prevention efforts use a three-arm model which is made up of the biomedical, structural and behavioural interventions. These interventions include voluntary male circumcision, prevention from mother to child transmission, curbing risky behaviours and tackling some of the environmental, economic and

socio-political issues which leave people vulnerable to HIV infection (UNAIDS, 2016). In sub Saharan Africa specifically there are interventions to increase ART adherence (Kalichman, Cherry, Kalichman, et al., 2011), to reduce HIV stigma in PMTCT (Peltzer et al., 2018), to link HIV infected people to care (Mavegam, Pharr, Cruz, & Ezeanolue, 2017), school-based interventions to prevent STIs and HIV (Sani, Abraham, Denford, & Ball, 2016), and interventions that target the reduction of alcohol and drug use which in turn lead to risky sexual behaviours (Carney et al., 2018; Wechsberg et al., 2013). As much as all these interventions contribute to the fight against HIV, more interventions focussing on sexual context need to be developed. The findings of the present study contribute to a better understanding of sexual context and how sexual relationships are perceived among young men in KwaZulu-Natal. It is in a thorough understanding of the sexual context that behavioural interventions can be better designed for the intended communities while taking cognizance of the cultural sensitivities.

Limitations

The findings reflect the views and beliefs of a relatively small sample of young men from one specific region of South Africa and therefore should be interpreted with caution. A purposeful sampling method was used due to structural challenges such as the vast distances between villages and the lack of transport for the community members. The research team could only access community members who were available. This resulted in FGDs with young men who were mainly unemployed or not in school. When interpreting these results, it should also be considered that the nature of focus group discussion can also be limiting. Given that the participants reside in the same area and possibly have an overlap in terms of circles of friends and close acquaintances, the views expressed may possibly have been sanitised.

Despite these limitations this study was still able to elicit views and perceptions about sexual content not previously reported on as far as this study was able to ascertain. Romantic relationship try-outs with many partners, the idea of 'feeling under pressure' together with the notion of being culturally restricted to dump girlfriends are findings that help to explain the phenomenon of multiple sexual partner concurrency further. This information will assist in the development of health behaviour interventions to practice safer sexual behaviours.

CHAPTER 3

3

The psychosocial determinants of the intention to avoid sexual engagement when intoxicated among young men in KwaZulu-Natal, South Africa

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Abstract

A cross sectional study was conducted among 350 sexually active, mainly unemployed men between the ages of 18 and 35 in KwaZulu-Natal. This study examined the psychosocial determinants of the intention to be sexually active after having used marijuana or alcohol personally or in instances when the sexual partner is intoxicated. The theory of planned behaviour and cultural notions of responsible manhood were used in developing the measures. Correlation and hierarchical stepwise linear regression analyses tested determinants of the intention to avoid having sex when personally intoxicated and the intention to avoid sex when the sexual partner is intoxicated. About 78% of the participants reported regular use of alcohol and 39% indicated ever-using marijuana. A total of 36.3 % used both alcohol and marijuana, and 73% said that they engaged in multiple sexual partner behaviour. The intention to avoid sex when personally intoxicated as well as the intention to avoid sex when the sexual partner is intoxicated were significantly associated with subjective norms and perceptions of perceived behavioural control towards the respective behaviours, and less with attitudes towards the respective behaviours. These findings imply that health education interventions should focus on changing the normative beliefs as well as control beliefs of the target population either directly through education and training or indirectly by creating physical and social environments that facilitate safe sexual practices, for example by organizing positive peer support for risk prevention and by making condoms freely available in community alcohol serving establishments.

Introduction

Alcohol use has been found to be a prominent risk behaviour leading to death and disability globally, and has been linked to non-communicable diseases such as cancer, cardiovascular, and liver disease (WHO, 1988; Wu & Cederbaum, 2003). In South Africa the average alcohol consumption is reported to be 5 billion litres of alcohol each year, which is about 20 litres of alcohol per capita per year, with men generally consuming more volumes than women (Kalichman, Simbayi, Jooste, & Cain, 2007; Parry, 1999; Parry et al., 2005; Peltzer, Davids, & Njuho, 2011). Furthermore, studies have shown that there is an association between excessive alcohol consumption and an increased sexually transmitted disease acquisition where alcohol is reported to affect behaviour, sexual arousal and is said to also affect the immune system adversely (Cook & Clark, 2005). This association is important in a country like South Africa, which has one the highest prevalence rates of STIs and HIV/AIDS in the world, with many people being in an immune compromised situation (Parry, Patra, & Rehm, 2011). Alcohol use has also been shown as an independent risk factor for intentions to engage in unprotected sex (Parry et al., 2011). Because risky sex intentions have been associated with actual risk behaviour, considering alcohol consumption in the context of HIV/STI prevention is of public health importance (Parry et al., 2011).

In 2012, South Africa counted 6.4 million HIV-infected people, with African females 20 – 34 years old (31.6%) and African males 25 – 49 years old (25.7%) being the groups with the highest risk (Shisana et al., 2014). The South African HIV prevalence rate translates into 17% of the global burden of HIV infection (Mayosi & Benatar, 2014). Studies that explored the association of both alcohol use and marijuana use with risky sexual behaviour found that marijuana and alcohol use are associated with non-communication about sexual risks with sexual partners, with more likelihood to engage in unprotected sex, and a greater propensity to take unmeasured risks (Hanson, Thayer, & Tapert, 2014; Icard, Jemmott, Teitelman, O'Leary, & Heeren, 2013; Kingree & Betz, 2003; Kingree, Braithwaite, & Woodring, 2000). A study conducted among black men between the ages of 18 and 45 in South Africa found that men with a history of childhood sexual abuse were more likely to have multiple sexual partners as well as report a greater number of days using marijuana (Icard et al., 2013). Furthermore, marijuana and alcohol use have been shown to affect executive control functions such as attention, behavioural flexibility, decision-making, inhibitory control, planning, time estimation and working memory that are crucially involved in top-down control of behaviour such as sexual decision making (Lee et al., 2012; Pattij et al., 2008; Piechatzek et al., 2009; Verdejo-García et al., 2010).

In light of the above findings, a thorough understanding of the factors that serve as determinants of the use of alcohol and marijuana in relation to risky sexual

practices is needed to identify relevant target points for the design of interventions to promote safer sexual practices. In the last three decades, the theory of planned behaviour (Ajzen, 2011; Ajzen & Fishbein, 2005; Sharma & Kanekar, 2007), social cognitive theory (Bandura, 1998; Bandura, 1989), and protection motivation theory (Rippetoe & Rogers, 1987) have been the most commonly used frameworks to explain health behaviour (for integrative approaches, see (Fishbein et al., 2001; Montaño & Kasprzyk, 2008). As conceptual framework for the present study we used the theory of planned behaviour (Ajzen, 1991); for a recent re-formulation see (Fishbein & Ajzen, 2010). The theory of planned behaviour proposes that human behaviour is for the most part determined by behavioural intention, which is defined as the motivation to perform a specific behaviour. Intention in turn is determined by attitude, subjective norm, and perceived behavioural control. Attitude represents a person's evaluation of the anticipated outcomes of the behaviour and is the product of the individual's behavioural beliefs about the outcomes of performing the behaviour and the evaluation of those behavioural outcomes in terms of importance. Subjective norms are a product of whether an individual believes other meaningful people approve or disapprove of the behaviour and the motivation to comply with the opinions of those people. Lastly, perceived behavioural control is determined by an individual's beliefs whether there are barriers to their control over the behaviour and the perceived power the individual feels to remove these barriers (Ajzen, 1991).

The theory of planned behaviour has been used widely to describe health behaviours including drug use, physical activity, dietary behaviours, health screening attendance, and sexual behaviours (Conner & Sparks, 2005; Elliott, Armitage, & Baughan, 2007; French & Cooke, 2012; Heeren, Jemmott, Mandeya, & Tyler, 2007; Høie, Moan, Rise, & Larsen, 2012; McEachan, Conner, Taylor, & Lawton, 2011). Attitudes and perceived behavioural control proved to be better predictors of behavioural intentions compared to subjective norms in the majority of these studies, whereas in the African context strong contributions have also been reported for subjective norms (Boer & Mashamba, 2005).

In an attempt to identify a broader range of factors that serve as determinants of substance use, drinking behaviour, and unsafe sex, this study extended the theory of planned behaviour by including measures that relate to the concept of responsible manhood. This is because the study population is drawn from traditional communities in KwaZulu-Natal, a province in South Africa. Within these communities there are traditional notions of responsible manhood, which underpin behaviour. Manhood in the literature is defined in terms of the roles that males play in society (Datta, 2007; Hammond & Mattis, 2005; Mahalik, Burns, & Syzdek, 2007), which is mostly defined against the dominant background of Western culture. Here the contemporary hegemonic masculinity is associated with being white, heterosexual, possessing stereotypical masculine traits of assertiveness, dominance, control,

physical strength, and emotional restraint (Connell & Messerschmidt, 2005; Connell & Wood, 2005; Levant & Richmond, 2007).

In the traditional African context, manhood has been seen as a systematic socialization process that begins from infancy until adulthood. Some African societies have marked rites of passage like the male and female initiation practices (Coulter, 2005; Meissner & Buso, 2007; Nyembezi, Funani, et al., 2012). The initiation represents a focal point along the lifelong process of entrenching the mores of a community in rearing the boy and girl child, and may also include reference to sustaining sexual and reproductive health. Beyond initiation practices, teachings of responsible behaviour in young men are continued; for example young men are taught and expected to secure resources for future marriage (called *lobola*) through their own efforts, and in marriage to provide support and security for the family (Hunter, 2006). Concurrently acts of irresponsibility like impregnating girls are strongly discouraged by having the young men pay fines (called *inhlawulo*) should this happen (Hunter, 2006). In developing measures for the responsible manhood concept we draw from the above concepts of providing support and discouraging hurtful interpersonal behaviour.

The aim of this study is to explore the predictors of the intention to avoid sex when the individual is intoxicated and the intention to avoid sex with people who are intoxicated. The objective is to test how these outcome variables are explained first, through their direct proximal variables, which are attitudes, subjective norms and perceived behavioural control towards the respective behaviour of interest, secondly through attitudes, subjective norms, perceived behavioural control and intention towards reducing alcohol and marijuana use, thirdly through beliefs with regard to responsible manhood constructs, and finally through socio-demographic variables which include past substance use.

Method

Study Design

This paper forms part of a larger behavioural intervention study, which set out to adapt and test an intervention targeting men between the ages of 18 and 35 in KwaZulu-Natal province of South Africa. The intervention aimed to promote the reduction of number of sexual partners, promote condom usage, encourage testing for HIV, encourage more supportive male roles in the community, and lastly discourage use of alcohol and drugs. The paper reports on the baseline data specifically focusing on sexual behaviour collected from the participants prior to administering the curriculum. This study received full ethical clearance from the South African Medical Association Research Ethics Committee (SAMAREC- Protocol MRC 1-09), permission was additionally also granted by the local municipal offices, and the traditional leadership in the areas concerned. Participants gave written

informed consent to participate in the study.

Participants and Study Setting

The study was conducted in KwaZulu-Natal on the eastern coast of South Africa. It is the second most populated province with 10.8 million people; 86.1% are African, 7.9% Indian/Asian, 4.6% White, and 1.4% Coloured (Relations, 2013; Statistics South Africa, 2013). The most widely spoken language in KwaZulu-Natal is isiZulu. The inclusion criteria for the study were: male, between the ages of 18 and 35, isiZulu speaking, residing in the area, availability for a follow up in six months post intervention. The research participants were recruited from multiple community sites such as schools, churches, and community organizations. Participation in the study was on a voluntary basis to all participants who met the inclusion criteria and were able to take part during the times allocated. Researchers provided transport (where necessary) and lunch to the participants.

The recruitment drive included a well-publicised initiative of talks about the study aims at community meetings, local churches, sports tournaments organised specifically for this purpose, and local community radio stations nearly 12 months before commencing the study. Site A is an urban locality roughly 30km from Durban with a majority African population while Site B is rural and approximately 250km from Durban also with a majority African population. A total of 575 young men completed the baseline questionnaire with 350 responding positively to 'ever having sex', who were then selected for the purposes of this analysis (N = 350). A total of 225 young men who responded negatively to 'ever having sex' were excluded.

Study Instruments

Data were collected through an interviewer-administered questionnaire, which took about two hours to administer with snacks being served in between. This questionnaire was adapted from a previous study among prison inmates' in KwaZulu-Natal and Mpumalanga (Sifunda et al., 2008). Additionally, the content for the questionnaire was derived from a literature review on the topic as well as focus group interviews among the study group. The questionnaire was divided in three sections where the first measured the socio-demographic profile of the participants in terms of age, level of education, employment status and if participant lived alone or not. The second section examined the participant's sexual risk behaviour in terms of the number of sexual partners and frequency of current behaviours of alcohol and marijuana use. The last section focused on the measurement of the key outcome variables: intention to avoid engaging in sexual activities when one is intoxicated with alcohol or marijuana, and intention to avoid engaging in sexual activities with people who are intoxicated with alcohol or marijuana. In this last section the psychosocial determinants of these outcome variables were also assessed in terms of attitude, subjective norm, and perceived behavioural control towards these behavioural intentions. The questionnaire was developed

in English and translated into isiZulu, then it was back translated into English to ensure construct and face validity. The research assistants together with the project managers who came from the same background as the research participants were responsible for the translation process.

Measures and scale construction

Alcohol and Marijuana use

Two single items assessed the frequency of alcohol and marijuana use in the past 6 months, respectively, using a 5-point scale with 1 = never (0 days), 2 = rarely (1 to 2 days), 3 = sometimes (3 to 9 days), 4 = often (10 to 19 days), and 5 = very often (20 days or more).

Multiple Partners

Risky sexual behaviour was measured by asking the number of sexual partners the participant engaged in sex with in the past six months. A 4-point scale was used with response options 0 = not sexually active, 1 = 1 sexual partner, 2 = between 2 and 5 sexual partners, 3 = between 6 and 10 sexual partners, and 4 = 10 and more sexual partners.

Psychosocial correlates

Using the recommendations from Ajzen on how to measure theory of planned behaviour constructs as a guide (Ajzen, 1991), measures of attitude, subjective norm, perceived behavioural control, intentions towards behaving as a responsible man, reducing alcohol intake and marijuana use, avoiding engaging in sexual activities when one is intoxicated with alcohol or marijuana, and avoiding engaging in sexual activities with people who are intoxicated with alcohol or marijuana were constructed. The theory of planned behaviour variables (attitudes, subjective norms, perceived behavioural control, and intentions) were measured using a 1 to 5 scale with response options 1 = strongly/fully disagree, 2 = disagree, 3 = unsure, 4 = agree, and 5 = strongly/fully agree, while perceived behavioural control was measured using a 1 to 5 scale with response options 1 = very confident, 2 = confident, 3 = unsure, 4 = not confident, and 5 = not confident at all. Table 1 provides an overview of the psychosocial concepts that were measured, including the number of items, sample items, minimum and maximum score, and using Cronbach's Alpha (3 or more items) or Pearson's r (2 items) as a measure of the internal consistency of grouped items.

Table 1: ***Overview of the scale measures***

Measures and example items	Number of items	Min Score	Max Score	Cronbach's Alpha (α)/Pearson's r
Attitudes towards behaving as a responsible man. - A responsible man is someone who has to discipline his wife/partner when necessary using physical force - A responsible man is someone who forces himself on his partner when they do not feel like having sex	2	1	5	.59
Subjective norms towards behaving as a responsible man. - Most of your community members think that a responsible man is someone who has to discipline his wife/partner when necessary using physical force. - Most men I know think that a responsible man is someone who has to discipline his wife/partner when necessary using physical force.	2	1	5	.73
Perceived Behavioural Control towards behaving as a responsible man. - How confident are you that you will be able to look after your partner's wellbeing? - How confident are you that you will be able to support your partner and children financially?	2	1	5	.42
Intentions towards behaving as a responsible man. - I intend to discipline my wife/partner when necessary using physical force in the next 3 months	1	1	5	-
Attitudes towards reducing overall alcohol and drug intake -Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is wise -Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is pleasant -Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is good -Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is valuable -Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is safe -Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is natural	6	1	5	.84

Measures and example items	Number of items	Min Score	Max Score	Cronbach's Alpha (α)/Pearson's r
Subjective Norms towards reducing overall alcohol and drug intake -Most people who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next 3 months is a good thing -Most men who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next 3 months is a good thing -Most of my peers who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next 3 months is a good thing -Most community members who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next 3 months is a good thing -Most family members who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next 3 months is a good thing	5	1	5	.84
Perceived Behavioural Control towards reducing overall alcohol and drug intake -For me to reduce overall drug and alcohol intake to only one day a week in the next 3 months is possible - If I wanted to reduce overall drug and alcohol intake to only one day a week in the next 3 months I could do it with ease - How much control do you believe you have in reducing overall drug and alcohol intake to only one day a week in the next 3 months	3	1	5	.66
Intentions towards reducing overall alcohol and drug intake -I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months -I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months even if I am offered free alcohol and/or drugs -I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months even if people are calling me derogatory names -I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months even if i acquire material wealth -I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months even if my friends dare me -I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months even if my drinking partners dare me	6	1	5	.93

Measures and example items	Number of items	Min Score	Max Score	Cronbach's Alpha (α)/Pearson's r
Attitudes towards avoiding sex when you are intoxicated -Avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is something that is wise -Avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is something that is pleasant -Avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is something that is good -Avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is something that is valuable -Avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is something that is safe	5	1	5	.91
Subjective Norms towards avoiding sex when you are intoxicated -Most people who are important to me think that avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is a good thing -Most men who are important to me think that avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is a good thing -Most of my peers who are important to me think that avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is a good thing -Most community members who are important to me think that avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is a good thing -Most family members who are important to me think that avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is a good thing	5	1	5	.84
Perceived Behavioural Control towards avoiding sex when you are intoxicated - For me to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months is possible - If I wanted to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months I could do it with ease - How much control do you believe you have in avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months	3	1	5	.66

Measures and example items	Number of items	Min Score	Max Score	Cronbach's Alpha (α)/Pearson's r
Intentions towards avoiding sex when you are intoxicated - I intend to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months - I intend to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months even if I am offered free alcohol and/or drugs - I intend to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months even if people are calling me derogatory names - I intend to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months even if I acquire material wealth - I intend to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months even if my friends dare me - I intend to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months even if my drinking partners dare me	6	1	5	.92
Attitudes towards avoiding sex with people who are intoxicated -Avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is something that is wise -Avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is something that is pleasant -Avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is something that is good -Avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is something that is valuable -Avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is something that is safe	5	1	5	.94

Measures and example items	Number of items	Min Score	Max Score	Cronbach's Alpha (α)/Pearson's r
Subjective Norms towards avoiding sex with people who are intoxicated -Most people who are important to me think that avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is a good thing -Most men who are important to me think that avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is a good thing -Most of my peers who are important to me think that avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is a good thing -Most community members who are important to me think that avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is a good thing -Most family members who are important to me think that avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is a good thing	5	1	5	.88
Perceived Behavioural Control towards avoiding sex with people who are intoxicated - For me to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is possible - If I wanted to avoid engaging in sex with people who are under the influence of alcohol in the next 3 months I could do it with ease - How much control do you believe you have in avoid engaging in sex with people who are under the influence of alcohol in the next 3 months	3	1	5	.79
Intentions towards avoiding sex with people who are intoxicated - I intend to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months - I intend to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months even if I am offered free alcohol and/or drugs - I intend to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months even if people are calling me derogatory names - I intend to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months even if I acquire material wealth - I intend to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months even if my friends dare me - I intend to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months even if my drinking partners dare me	6	1	5	.93

Analysis

Statistical analysis was done using SPSS Version 22. Descriptive statistics were used to describe the sample. Bivariate correlations analysis was used to assess associations between study measures. Hierarchical linear regression models were then used to determine the unique contribution the study measures made to explaining the overall variance in firstly the intention to avoid sex when intoxicated and secondly the intention to avoid sex with people who are intoxicated. The stepwise regression was done in a four-step process starting with the more proximal and ending with more distal predictors. In step 1 the outcome variable is tested against the proximal predictors attitude, subjective norm and perceived behavioural control towards the behaviour of interest. In step 2 attitudes, subjective norm, perceived behavioural control, and intention towards reducing alcohol and marijuana used were added. Step 3 added attitude, subjective norm, perceived behavioural control, and intention towards responsible manhood. Finally, the socio-demographic variables (age, level of education) and behavioural variables (past substance use and sexual behaviour) were added in step 4.

Results

Socio-demographic profile of the participants

A total of 350 young men were included in the analysis. The ages ranged from 18 to 35 with the majority (64.6%) between the ages of 18 and 20 (see Table 2). The level of education for this sample varied from primary education to tertiary education with 40% (N = 143) of the sample having a grade 12 and higher qualification. Almost all participants reported being unemployed (95.7%). Most participants lived with at least one parent or with a relative.

Substance use and sexual behaviours

Just over three quarters (78.3%) reported having used alcohol before and 38.9% ever used marijuana. A total of 36.3% of the participants used both alcohol and marijuana. About 73% reported having multiple concurrent sexual partnerships.

Table 2: ***Socio-demographic profile of the participants***

Characteristic	Frequency	Percentage
Age		
(18 – 20)	226	64.6%
(21 – 25)	85	24.3%
(26 – 30)	30	8.6%
(31 – 35)	7	2.0%
Levels of education		
Primary	1	.3%
Standard 6	33	9.4%
Standard 8	156	44.6%
Matric	100	28.6%
Tertiary (Technikon)	25	7.1%
Tertiary (University)	18	5.1%
No formal education	0	0%
Participants not employed	335	95.7%
Participants living on their own	34	9.7%
Participants living with at least one parent	108	30.8%
Participants living with a relative	42	12%

Predictors of intention to avoid sex when intoxicated

Table 3 presents the correlations as well as the results of the hierarchical stepwise analysis assessing the unique contributions of the predictor variables in the explanation of intention to avoid sex when one is under the influence of alcohol and marijuana. Bivariate correlation analyses were conducted to assess the strength of associations between the outcome variables and the psychosocial measures with r = .10 -.23 indicating a small effect, r = .24 -.36 indicating a moderate effect, and r >.37 indicating a large effect (Cohen, 1992; Kotrlik, Williams, & Jabor, 2011). Strong positive associations with intention to avoid sex when intoxicated were found for subjective norms towards avoiding sex when intoxicated and for intention and subjective norms towards reducing alcohol and marijuana use. Perceived behavioural control towards avoiding sex when intoxicated was found to be moderately associated with the intention to avoid sex when intoxicated. Weak associations were found for attitudes towards avoiding sex when intoxicated, attitudes and perceived behavioural control towards reducing alcohol and marijuana use, and also for attitudes, perceived behavioural control and intention towards behaving as a responsible man.

In the first step of the multiple regression analysis, attitude, subjective norm and perceived behavioural control towards avoiding sex when one is intoxicated explained 22% of the variance in intention, showing significant contributions of subjective norm and perceived behavioural control ($p < .001$). Adding the psychosocial measures with regard to reducing alcohol and marijuana use in the second step explained an additional 20% of variance ($p \leq .001$), with significant additional contributions of subjective norm and intentions towards reducing alcohol and marijuana use. The third step added the responsible manhood variables, but

without explaining any additional variance. Finally, in the fourth step adding socio-demographic variables, past alcohol and marijuana use explained also no additional variance. The final model explained 41% of the total variance in the intention to avoid sex when one is intoxicated with significant unique positive contributions of subjective norms and perceived behavioural control to avoid sex when intoxicated as well as the subjective norms and intentions to reduce alcohol and marijuana use.

Table 3: Hierarchical regression of the intention to avoid sex when intoxicated

		Step1		Step 2		Step 3		Step 4	
	r	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)
Avoid sex when intoxicated									
attitude	.227**	-.00	-.00 (.050)	-.07	-.09 (.047)	-.06	-.08 (.048)	-.07	-.08 (.048)
subjective norm	.460**	.37	.38***(.054)	.19	.20*** (.051)	.20	.20*** (.051)	.20	.20*** (.052)
perceived behavioural control	.312**	.21	.19***(.065)	.20	.18*** (.058)	.20	.18*** (.059)	.19	.17*** (.060)
Reduce alcohol and marijuana use									
attitude	.226**			.08	.07 (.058)	.07	.07 (.058)	.07	.06 (.059)
subjective norm	.492**			.15	.14*** (.056)	.14	.13** (.057)	.13	.13** (.058)
perceived behavioural control	.171**			-.04	-.03 (.062)	-.04	-.03 (.063)	-.04	-.03 (.064)
intention	.580**			.40	.39*** (.055)	.41	.40*** (.056)	.41	.39*** (.056)
Responsible manhood									
attitude	.107*					.03	.05 (.026)	.03	.05 (.027)
subjective norm	.011					.03	.06 (.020)	.03	.07 (.021)
perceived behavioural control	.122*					.00	.13 (.027)	.00	.00 (.027)
intention	.145**					-.00	-.00 (.047)	.00	.00 (.047)
Demographic and past behaviour									
age	-.048							-.10	-.07 (.067)
level of education	.035							.04	.04 (.052)
relationship status	-.095							-.07	-.03 (.094)
marijuana use	.027							.00	.00 (.034)
alcohol use	-.059							-.02	-.01 (.054)
number sex partners	-.047							.02	.01 (.070)
Constant		1.79		0.36		-0.11		0.04	
Adjusted R Square		.22***		.42***		.42		.41	

Predictors of intention to avoid sex with people who are intoxicated

Table 4 presents the correlations as well as the results of the hierarchical stepwise analysis including the predictors of intention to avoid sex with people who are under the influence of alcohol and marijuana.

The intention to avoid sex with people who are intoxicated showed strong positive correlations with subjective norms towards avoiding sex with people who are under the influence of alcohol and marijuana and also with both subjective norms and intention towards reducing alcohol and marijuana use. Attitude towards reducing alcohol and marijuana use correlated moderately with the intention to avoid sex with people who are intoxicated. Weak correlations were found for attitude and perceived behavioural control towards avoiding sex with people who are intoxicated, perceived behavioural control towards reducing alcohol and marijuana use, and for attitudes and perceived behavioural control towards behaving as a responsible man. In the first step of the multiple regression analysis, attitude, subjective norm, and perceived behavioural control explained 17 % of the variance in the intention to avoid sex with people who are intoxicated, showing significant contributions of subjective norm and perceived behavioural control. Adding the variables in the second step explained an additional 20% of variance ($p \leq .001$), with contributions of attitudes, subjective norms and intentions towards reducing alcohol and marijuana use. The third step added the responsible manhood variables but these variables did not explain additional variance. Finally, in the fourth step adding demographic variables and past alcohol and marijuana use also explained no additional variance. The final model explains 37% of the variance in the intention to avoid sex with people who are intoxicated with unique significant contributions of subjective norms and perceived behavioural control to avoid sex with people who are intoxicated as well as the attitudes, subjective norms and intentions to reduce alcohol and marijuana use.

Table 4: Hierarchical regression of the intention to avoid sex with people who are intoxicated

		Step1		Step 2		Step 3		Step 4	
	r	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)
Avoid sex intoxicated people									
attitude	.167**	-.01	-.01 (.044)	-.02	-.03 (.039)	-.02	-.02 (.039)	-.02	-.02 (.040)
subjective norm	.413**	.30	.31*** (.054)	.17	.18*** (.051)	.16	.17*** (.051)	.16	.17*** (.052)
perceived behavioural control	.213**	.17	.19*** (.058)	.13	.14*** (.052)	.12	.13*** (.052)	.12	.14*** (.053)
Reduce alcohol and marijuana use	.290**			.17	.16*** (.057)	.18	.17*** (.057)	.16	.15*** (.058)
attitude	.378**			.15	.14*** (.060)	.14	.13*** (.060)	.15	.14*** (.061)
subjective norm	.114*			-.11	-.09 (.063)	-.12	-.10 (.064)	-.12	-.09 (.065)
perceived behavioural control	.479**			.34	.33*** (.058)	.35	.34*** (.058)	.35	.33*** (.059)
intention									
Responsible manhood									
attitude	.125*					.04	.08 (.028)	.04	.08 (.028)
subjective norm	.060					.03	.06 (.021)	.03	.06 (.022)
perceived behavioural control	.118*					.02	.05 (.028)	.02	.04 (.028)
intention	.100					-.01	-.01 (.049)	-.01	-.01 (.050)
Demographic and past behaviour	.014							-.01	-.00 (.072)
age	.075							.05	.05 (.054)
level of education	-.066							-.01	-.00 (.100)
relationship status	.018							-.04	-.06 (.036)
marijuana use	-.076							-.01	-.01 (.057)
alcohol use	.008							-.00	-.00 (.073)
number sex partners									
Constant		2.35		7.35		.06		.07	
Adjusted R Square		.17***		.37***		.37		.37	

Discussion

The results of this study highlight some important aspects about substance use and sexual behaviours that put young men and their sexual partners at risk of STIs including HIV. Alcohol use was reported by over three quarters of the participants and over one third of the men indicated ever using marijuana. While the rate of alcohol use is higher compared to the most recent national survey among school going youth in South Africa where 49.2% reported to ever had one or more drinks of alcohol in their lifetime (Reddy et al., 2013a), the reported marijuana use at 39.9% is similar to the findings in the current study.

The purpose of this study was to explore the determinants of the intention to avoid sex when one is under the influence of alcohol and marijuana and the intention to personally avoid sex with people who are under the influence of alcohol and marijuana. This was done using constructs from the theory of planned behaviour. The overall explained variance for both outcome variables ranged between 17% and 42%, which confirms results from earlier studies that use the theory of planned behaviour to explore health behaviour motivation (Conner & Sparks, 2005). It was found that attitude, subjective norm and perceived behavioural control towards avoiding sex when one is intoxicated explained 22% of the variance in intention, showing significant contributions of subjective norm and perceived behavioural control. For the intention to avoid sex with people who are intoxicated, attitude, subjective norm, and perceived behavioural control explained 17 % of the variance in intention showing again significant contributions of subjective norm and perceived behavioural control, and not attitude. These findings confirm earlier research that societal pressures can have a strong influence on individual behaviour, next to evaluations of behavioural outcomes and feelings of confidence in executing the behaviour (Boer & Mashamba, 2005; Borsari & Carey, 2001; Jemmott et al., 2007). In addition, we were also interested in exploring how sexual decision-making is affected by perceptions of alcohol and marijuana use. Looking at the intention to avoid sex when one is intoxicated we found that the psychosocial measures with regard to reducing alcohol and marijuana use explained an additional 20% of the variance, with significant additional contributions of subjective norm and intentions towards reducing alcohol and marijuana use. Similarly adding the measures relating to reducing alcohol and marijuana use to the intention to avoid sex with people who are intoxicated also explained an additional 20% but here with significant additional contributions of attitudes, subjective norms and intentions towards reducing alcohol and marijuana use.

This study also sought to introduce the construct of responsible manhood, which we thought would explain part of the behavioural intention to have safe sex. However, the responsible manhood variables emphasizing supportive and non-hurtful behaviour towards partners did not explain any additional variance for

both the intention to avoid sex when intoxicated and the intention to avoid sex with people who are intoxicated. Although the correlation associations of the responsible manhood constructs with both intention measures were positive, they were also weak.

Finally, the socio-demographic variables age, level of education, relationship status, number of sexual partners and past use of alcohol and marijuana did not explain any additional variance as would be expected by using the theory of planned behaviour in which person characteristics determine intention and behaviour through the beliefs underlying the general evaluations of behavioural outcomes, social norms, and personal capabilities.

The strong associations of subjective norms with the outcome measures in this study suggest that the men sampled are strongly influenced by their peers and communities with regards to decisions about whether to drink alcohol or smoke marijuana and also in relation to intentions to avoid risky sexual behaviours. Participants in this study do acknowledge the negative behaviours as evidenced in the positive intentions towards avoiding sex when intoxicated and the positive intentions towards avoiding sex with people who are intoxicated, but are weighed on heavily by what their community, friends and people important to them think about these behaviours. The participants engaged in these risky sexual behaviours even though they had strong intentions to avoid them.

The findings suggest that people with a more positive motivation to reduce substance use are more likely to avoid risky sexual practices. As a result, the focus of interventions can be two-fold by targeting both the normative beliefs (subjective norms) and control beliefs (perceived behavioural control) towards avoiding risky sexual behaviour and the psychosocial correlates towards reduction of alcohol and marijuana use. Health education interventions should therefore focus on changing the normative beliefs of the target population to create positive social norms towards safe sexual practices in relation to substance use e.g. by showing positive peer support for risk prevention and by building personal resistance against social pressures for risky taking behaviour, and by enabling physical as well as social environments towards safe sexual practices in the context of substance use. A practical intervention enabling positive physical environments in the context of substance use could be to place messages promoting safe sex in community alcohol serving establishments and place free condoms at such venues. This can be done utilising the Intervention Mapping approach, which is a protocol for developing theory and evidence-based behaviour change interventions. There are six steps, where each is made up of tasks that incorporate theory and evidence. The completion of each step serves as a guide for the subsequent step, whereby when all the steps are completed the result is a blueprint for designing, implementing and evaluating an intervention based on a foundation of theoretical, empirical, and

practical information (Bartholomew, Markham, Ruiter, Fernández, Kok, & Parcel, 2016).

Future research, in addition to exploring the impact of subjective norms as a predictor of behavioural intention should closely examine the behaviour of the participant's peers and close family to establish the degree to which these perceptions influence their intentions.

The present study is not without limitations. Foremost, the responsible manhood concept should be investigated and developed further. Recent research shows how the responsible manhood concept is positively affiliated to ethnic identity and how in turn ethnic identity was shown to have a positive association with safer sexual practices (Nyembezi, Funani, et al., 2012). A potential reason why this study was unable to show strong correlations with the responsible manhood constructs may be due to the poor construction of the variables making them unable to thoroughly test what had been intended. The construction could have emphasised mainly on linking responsible manhood to ethnic identity. As this concept is still in the development stages, better measurement tools should be developed for future studies.

The results showed that about a third of men in the study engage in risky sexual behaviour and substance use. These figures may well be inflated due to the large number of unemployed men sampled. This bias could have inadvertently been as a result of the inclusion criteria, which restricted availability of the potential participants to working hours during the week (08h00 to 17h00, Monday to Fridays). The limitations notwithstanding, this current study was able to explain a significant proportion of the variance in intentions to avoid sex when intoxicated and when the sexual partner is intoxicated. The findings suggest that health education interventions should focus on changing the normative beliefs as well as control beliefs of the target population either directly through education and training or indirectly by creating more positive social norms and enabling physical environments towards safe sexual practices in the context of substance use. The normative beliefs are especially relevant in Africa where the socialisation of the individual is largely community orientated as evident in extended families, which still dominate the mainly rural landscape.

Conclusions

The results of this study highlight some important aspects about substance use and sexual behaviours that put young men and their sexual partners at risk of STIs including HIV. The predictors identified by this study reveal opportunities for the development of health education to promote safer sex among men in KwaZulu-Natal Province. These findings imply that health education interventions should focus on

changing the normative beliefs as well as control beliefs of the target population either directly through education and training or indirectly by creating physical and social environments that facilitate safer sexual practices, for example by organizing positive peer support for risk prevention and by making condoms freely available in community alcohol serving establishments.

CHAPTER 4

Understanding the Psychosocial Correlates of the Intention to Use Condoms Among Young Men in KwaZulu-Natal, South Africa

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Abstract

South Africa leads the world with the number of people infected with HIV. Even with all attempts that have been made to curb HIV, it is still evident that new infections are on the rise. Condom use remains one of the best tools against this challenge yet a small number of sexually active men use them. This study investigates the psychosocial correlates of the intention to use condoms among young men in KwaZulu-Natal province. Using the Theory of Planned Behaviour as a framework, hierarchical linear regression models were used to determine the unique contribution of the study measures in explaining the overall variance of intention to consistently use condoms. Subjective norms and perceived behavioural control towards consistent condom use explained 46% of the variance in the intention to use a condom, suggesting that health behaviour interventions should focus on targeting the normative beliefs as well as control beliefs of the target population. Furthermore, subjective norms and intentions towards reducing alcohol and marijuana use explained an additional 7% to the final model in intentions to condom use, implying that substance use and condom usage may influence each other. No significant contributions were found for beliefs underlying cultural aspects of responsible manhood.

Introduction

South Africa is battling to control incidents of new HIV infections. The latest South African National HIV Prevalence, Incidence and Behaviour Survey reported that approximately 6.4 million South Africans were living with HIV, with the number of new annual recent infections reported at about 460,000 and about 4 million people on anti-retroviral therapy (ART) (Shisana et al., 2014; UNAIDS, 2014). In 2015, the number of people living with HIV had risen to 7 million, with KwaZulu-Natal (KZN) province reported as having the highest HIV prevalence at 17.4% and the most affected group being people between 15 and 49 years of age (Shisana et al., 2014; Www.avert.org, n.d.).

Several HIV prevention strategies have been used to curb the HIV epidemic in KZN, in line with national policies and programs, among which is voluntary medical male circumcision (VMMC) coupled with HIV Counseling and Testing (HCT). The World Health Organization (WHO) recommended VMMC as an additional HIV prevention option [4]. The WHO policy position was influenced by the three randomized controlled trial (RCT) studies conducted in Uganda, Kenya and South Africa, which found that VMMC reduced HIV infections in men by between 55% and 61% (Auvert et al., 2005; Campbell et al., 2007; Gray et al., 2007). The high HIV prevalence prompted the national government to deploy more resources towards VMMC in KZN, where between 2010 and 2014 the province reported more VMMC than the other eight provinces (Kripke et al., 2016).

In as much as VMMC is seen to play a role towards HIV prevention in KZN communities, consistent condom use remains one of the most effective prevention tools against HIV transmission (Weller & Davis-Beaty, 2007). It is for this reason that we have to understand as much as we can about the determinants of condom use in the various populations where the scourge of HIV remains quite high. Given the high prevalence of HIV in South Africa, condom use becomes pivotal due to the fact that more people living with HIV are now enrolled in ART. Previous studies have reported that the status of being on ART, of having undergone VMMC and of knowing one's HIV status are associated with an increased likelihood to engage in risky sex, which is often attributed to men refusing to use condoms (Davis et al., 2014; Eisele et al., 2008; Wang et al., 2016; Yaya et al., 2014). Therefore, it is very critical that both infected and uninfected people should be encouraged equally to use condoms consistently and correctly. It should be highlighted that condom use in this study only refers to the latex male condom typically used for vaginal or anal intercourse.

This study utilized the Theory of Planned Behaviour (TPB) as the basis from which to investigate the intentions to use condoms among a group of sexually active young men. The Theory of Planned Behaviour (for a recent re-formulation see Fishbein

and Ajzen (Fishbein & Ajzen, 2010) posits that behavioural intention is determined by the independent variables attitude, subjective norm, and perceived behavioural control. Attitude represents a person's favourable or unfavourable evaluation of the anticipated outcomes of the behaviour, and is the product of the individual's behavioural beliefs regarding the likely outcomes of performing the behaviour. Subjective norms are a product of the normative expectations of other meaningful people towards a particular behaviour and the motivation to comply with the opinions of those people. Lastly, perceived behavioural control is determined by an individual's beliefs whether there are barriers to their control over the behaviour and the perceived power the individual feels to remove these barriers (Ajzen, 1991). Many studies have investigated the intention to use condoms using the Theory of Planned Behaviour (TPB) as a theoretical framework (Albarracín, Kumkale, & Johnson, 2004; Albarracín, Johnson, Fishbein, & Muellerleile, 2001; Sheeran, Abraham, & Orbell, 1999; Sheeran, Conner, & Norman, 2001; Sheeran & Taylor, 1999; Turchik & Gidycz, 2012). These studies vary in their prediction of the TPB construct most influential in predicting the intention to use condoms. Some studies have shown subjective norms to be the strongest cognitive predictor of intention to use condoms (Couture, Soto, Akom, Joseph, & Zunzunegui, 2010; Igumbor et al., 2006; Thomas, Shiels, & Gabbay, 2014), others emphasized attitudes and perceived behavioural control as strongest (Bennett & Bozionelos, 2000; Jemmott et al., 2007), and there are those that showed the predictive power of attitude, subjective norms and perceived behavioural control in varying combinations (Muñoz-Silva et al., 2007; Prabawanti, Dijkstra, Riono, & Tb, 2014). These studies highlight most importantly that, when researchers are designing behavioural health interventions, it is essential that they take the context of the targeted populations concerned into account. To this end some researchers have called on the Theory of Planned Behaviour proponents to be cognizant of cultural contexts (Airhihenbuwa & Webster, 2004; Airhihenbuwa & Obregon, 2000). In response to this, the TPB has been shown to have good predictive capabilities beyond a Western context where it was first developed (Schaalma, Flisher et al., 2009), and TPB, like other theories, describes processes that can be generalized over groups and across cultures. That is, for example, the construct of behavioural beliefs influences the general evaluation of a behaviour that we call attitude, which in turn determines the behavioural response, but the content of the beliefs may vary across cultures (Kok & Ruiter, 2014).

In South Africa, more specifically, a few studies have used the Theory of Planned Behaviour as a framework to research gender power imbalances in the intention to use condoms (Boer & Mashamba, 2007), the role of individual and group factors in intentions to use condoms (Giles, Liddell, & Bydawell, 2005), adolescent condom use behaviour (Bryan, Kagee, & Broaddus, 2006; Eggers et al., 2016; Jemmott et al., 2007), the influence intention has on behaviour among university students (Heeren et al., 2007), and condom use motivation in traditional male circumcision initiates (Nyembezi et al., 2014). These studies also vary in their prediction of the

most influential cognitive constructs, and some also show a clear gender difference in their predictability where both sexes were sampled. However, there is a paucity of evidence with regards to the determinants of condom usage studies for South African men. Young men between the ages of 18 and 35 are particularly at a high risk of HIV infection. Given the gender imbalances in HIV transmission, it is expected that developing culturally sensitive interventions targeting young men will help increase safer sexual practices (Nyembezi et al., 2014). A focus on young men can also help impact the gender imbalances reported by some studies that, in heterosexual relationships, women do not use condoms mainly because of their sexual partner's refusal to use them (Davis et al., 2014; Eisele et al., 2008). Studies examining men who have sex with men report that the reasons for not using condoms are pressure from the sexual partner as well as distrust (Lee, Sandfort, Collier, Lane, & Reddy, 2016). What is also evident is that condom problems and condom failures were seen among this group as being normal.

In order to identify a broader range of factors that serve as possible determinants of condom use, this study extended the measures related to condom use by including measures that relate to substance use and the concept of responsible manhood. Previous research has found that excessive alcohol intake (>14 drinks/week for men and >7 drinks/week for women) is associated with an increased sexually transmitted disease acquisition (Cook & Clark, 2005). Alcohol use and marijuana use have also been shown to adversely affect higher order cognitive processes often classified as executive control functions, including time estimation, attention, planning, behavioural flexibility, decision-making, and inhibitory control (Lee et al., 2012; Pattij et al., 2008; Piechatzek et al., 2009; Verdejo-García et al., 2010). Some of these basic cognitive functions play an important role in sexual decision-making.

We introduced the concept of responsible manhood because part of the study population is drawn from traditional communities in KZN. Within these communities there are traditional notions of responsible manhood, which underpin behaviour. Previous studies in their attempt to define manhood have done so in terms of the roles that males play in society (Datta, 2007; Hammond & Mattis, 2005; Mahalik et al., 2007), which is mostly defined against the dominant background of Western culture. In this context of Western culture, the stereotypical masculine traits of physical strength, dominance, control, emotional restraint and assertiveness together with being white and heterosexual are associated with contemporary hegemonic masculinity (Connell & Messerschmidt, 2005; Connell & Wood, 2005; Levant & Richmond, 2007). Manhood in the African context is a lifelong process of a systematic socialization of the boy child, wherein the mores of the community this young man is brought up in are entrenched through marked initiation rites of passage. Some of these life stages include male traditional circumcision (Meissner & Buso, 2007) and acquiring resources for a future marriage, which is understood to be a sign of maturity and responsibility, while acts of irresponsibility such as

impregnating girls are vehemently discouraged with payable fines (Hunter, 2006). This new construct of responsible manhood is derived from the traditional concepts of supportive male roles together with discouraging, hurtful behaviours. It is hypothesized that this construct will help explain some of the determinants of condom use among these young men.

The psychosocial and behavioural complexities in South Africa are characterized by a population of people living with HIV, of people on ART and of people who remain unaware of their HIV status. This intricate landscape calls for rigorous theory-based inquiry into the determinants of condom use. This paper will attempt to add to the scant literature on the psychosocial determinants of condom use in African men, and further attempt to answer the call for health behavioural interventions to have foundations in sound health behaviour theory (Coates et al., 2008; Conner & Sparks, 2005; Protogerou, Flisher, Aarø, & Mathews, 2012).

Materials and Methods

Study Design

This article reports on the baseline data which forms part of a larger dataset collected in the development and testing of a Health Behaviour Intervention targeted at young men in the province of KZN. The intervention focused on behavioural key points that promote consistent condom use, promote the reduction of sexual partners, encourage testing for HIV, discourage the use of alcohol and drugs, and lastly encourage the young men to play more supportive positive male roles in their respective communities. The study received full ethical clearance from the South African Medical Association Research Ethics Committee (SAMAREC- Protocol MRC 1-09), and additionally the research team also sought and received permission from the local municipal offices and the traditional leadership in the area concerned. Participants gave written informed consent to participate in the study.

Participants and Study Setting

The study was conducted in the province of KwaZulu-Natal on the North-Eastern coast of South Africa. It is the second most populated province at 10.8 million people with 86.1% being African, 7.9% Indian/Asian, 4.6% White, and 1.4% Coloured (Relations, 2013; Statistics South Africa, 2013). The sample comprised of males between the ages of 18 and 35 who were mainly isiZulu speaking, resided in the area and indicated availability for a follow-up at 6 months post intervention. The research participants were recruited from multiple community sites such as schools, churches, and community organizations. Participation in the study was on a voluntary basis to all participants who met the inclusion criteria and were able to come and take part during the times allocated. Researchers provided transport (where necessary) and also made provision for refreshments to the participants.

The recruitment drive included a well-publicized initiative of talks about the study aims at community meetings, local churches and sports tournaments organized specifically for this purpose. The research team was also hosted at a local community radio station to field questions from the community. This recruitment drive continued for nearly 12 months before commencing the study. Site A is a peri-urban locality roughly 30 km from Durban with a majority African population, while Site B is rural and approximately 250 km from Durban, also with a majority African population. A total of 575 young men completed the baseline questionnaire, of whom 350 responded "yes" to "having had one or more sexual partners in past 6 months". A sexual partner was defined as any person with whom the participant had either vaginal or anal sex.

Study Instruments

Data was collected through a facilitator-administered questionnaire. This questionnaire was adapted from a previous study among male prison inmates in KwaZulu-Natal and Mpumalanga provinces (Sifunda et al., 2008). Additionally, the content for the questionnaire was derived from a literature review on the topic as well as focus group interviews among the study group. The name of this adapted questionnaire was the same as that of the main study: Ubudoda Abukhulelwa Responsible Manhood: Towards the Development of Culturally Tailored and Contextually Sensitive Life Skills Programs for Heterosexual Men in South Africa. The questionnaire was divided into three sections, where the first measured the demographic profile of the population in terms of age, level of education, level of income, and whether participants were involved in sexual relationships or not. The second section examined the participants' sexual risk behaviour in terms of the number of sexual partners and current substance use behaviours concerning alcohol and marijuana use and their frequency. The last section focused on the psychosocial measures constructed using the Theory of Planned Behaviour, where each behaviour was measured for attitudes, subjective norms, perceived behavioural control, and intentions. The questionnaire was developed in English and translated into isiZulu, then it was translated back into English to ensure construct and face validity. The research assistants together with the project managers, who came from the same background as the research participants, were responsible for the translation process. The translations were all done in the form of a workshop with all the research assistants, project managers, and some of the co-authors (Thabang Manyaapelo, Sibusiso Sifunda, Anam Nyembezi) in attendance. Consensus was reached for the correct use of language for all the research tools.

Measures and Scale Construction

HIV Knowledge

Ten single items measured knowledge of HIV using: 1 = True, 2 = False, and 3 = I don't know response options. (Example: The HIV virus can be passed from a pregnant mother, if she is infected with HIV, to her unborn child. The responses

were dichotomised as 1 = True and 0 = False or I don't know).

Condom Knowledge

Three single items measured knowledge about condoms using a scale of 1 to 5: 1 = fully disagree, 2 = disagree, 3 = unsure, 4 = agree, and 5 = fully agree. (Example: Condoms work well to prevent the spread of HIV. The responses were dichotomised as 1 = Fully agree or Agree, 0 = Unsure, Disagree or Fully Disagree).

Multiple Partners

Risky sexual behaviour was measured by asking the number of sexual partners the participant had engaged in sex with in the past six months. A four-point scale was used with answering options of: 0 = not sexually active; 1 = 1 sexual partner; 2 = between 2 and 5 sexual partners, 3 = between 6 and 10 sexual partners, and 4 = 10 or more sexual partners.

Alcohol and Marijuana Use

Two single items assessed the frequency of alcohol and marijuana use in the past six months, respectively, using a five-point scale with options of: 1 = never (0 days), 2 = rarely (1 to 2 days), 3 = sometimes (3 to 9 days), 4 = often (10 to 19 days), and 5 = very often (20 days or more).

Psychosocial Correlates

The Theory of Planned Behaviour variables (attitude, subjective norm and intention) toward condom use for every sexual encounter consistently in the next three months were measured using a scale of 1 to 5 with answering options of: 1 = strongly/fully disagree, 2 = disagree, 3 = unsure, 4 = agree, and 5 = strongly/fully agree for attitude, subjective norm and intention, while perceived behavioural control was measured using a scale of 1 to 5 with options of: 1 = very confident; 2 = confident, 3 = unsure; 4 = not confident, and 5 = not confident at all). Table 1 provides an overview of the psychosocial correlates that were measured, including the number of items, sample items, minimum and maximum score, and Cronbach's Alpha (three or more items) or Pearson's r (two items) as a measure of the internal consistency of grouped items.

Table 1. Overview of scale measures with examples.

Measures and Example Items	Number of Items	Min Score	Max Score	Cronbach's Alpha (α)/ Pearson's r
Attitudes towards using a condom consistently for every sexual encounter in the next three months -Using a condom consistently for every sexual encounter in the next three months is something that is good	5	1	5	0.81
Subjective Norms towards using a condom consistently for every sexual encounter in the next three months -Most people who are important to me think that using a condom for every sexual encounter consistently in the next three months is a good thing	5	1	5	0.88
Perceived Behavioral Control towards using a condom consistently for every sexual encounter in the next three months -For me to use a condom consistently for every sexual encounter in the next three months is possible	3	1	5	0.70
Intentions towards using a condom consistently for every sexual encounter in the next three months -I intend to use a condom consistently for every sexual encounter in the next three months	6	1	5	0.92
Attitudes towards reducing overall alcohol and drug intake -Reducing overall drug and alcohol intake to only one day a week in the next three months is something that is wise	6	1	5	0.84
Subjective Norms towards reducing overall alcohol and drug intake -Most people who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next three months is a good thing	5	1	5	0.84
Perceived Behavioral Control towards reducing overall alcohol and drug intake -For me to reduce overall drug and alcohol intake to only one day a week in the next three months is possible	3	1	5	0.66
Intentions towards reducing overall alcohol and drug intake -I intend to reduce overall drug and alcohol intake to only one day a week in the next three months	7	1	5	0.93
Attitudes towards behaving as a responsible man -A responsible man is someone who has to discipline his wife/partner when necessary using physical force	2	1	5	0.59
Subjective norms towards behaving as a responsible man -Most of your community members think that a responsible man is someone who has to discipline his wife/partner when necessary using physical force.	2	1	5	0.73
Perceived Behavioral Control towards behaving as a responsible man -How confident are you that you will be able to look after your partner's wellbeing?	2	1	5	0.42
Intentions towards behaving as a responsible man -I intend to discipline my wife/partner when necessary using physical force in the next three months	1	1	5	-

Analysis

Statistical analysis was done using SPSS Version 23 (Statistical Product and Service Solutions, IBM, New York, NY, USA). Bivariate correlations analysis was used to assess associations between study measures. Hierarchical linear regression models were then used to determine the unique contribution the study measures made to explaining the overall variance in the intention to use a condom consistently with every sexual encounter. The regression was done in a five-step process starting with the more proximal predictors and ending with the more distal predictors. In step 1, the outcome variable is tested against the most proximal predictors of attitude, subjective norm and perceived behavioural control towards the behaviour of interest (using a condom consistently with every sexual encounter). In step 2, attitudes, subjective norm, perceived behavioural control, and intention towards reducing alcohol and marijuana used were added. Step 3 added the HIV and condom knowledge. Step 4 added attitude, subjective norm, perceived behavioural control, and intention towards responsible manhood. Finally, the demographic variables (age, level of education) and behavioural variables (past substance use and sexual behaviour) were added in step 5.

Results

Socio-Demographic Profile of the Participants

A total of 350 sexually active young men were included in this analysis. The ages ranged from 18 to 35, with the majority (64.9%) between the ages of 18 and 20 (see Table 2). The level of education for this sample varied from primary education to tertiary education, with 40% (*n* = 143) of the sample having a grade 12 or higher qualification. Almost all participants reported being unemployed (96.5%). Most participants lived with at least one parent or with a relative.

Sexual Behaviours and Substance Use

About 73% reported having multiple concurrent sexual partnerships. There was reasonably adequate knowledge regarding use of condoms, with 78.8% and 81.3% believing that “condoms can prevent the spread of HIV and prevent pregnancies”, respectively. With regards to general perception towards using condoms, 41.4% believe that condoms “take the fun out of sex” while 30.1% think that using a condom “shows that you do not trust your partner”. Just over three quarters (78.3%) reported having used alcohol in their lifetime and 38.9% reported having used marijuana. A total of 36.3% of the participants used both alcohol and marijuana.

Table 2. Socio-demographic profile of the participants

Characteristic	Frequency	Percentage
Age		
18–20	226	64.90%
21–25	85	24.40%
26–30	30	8.60%
31–35	7	2.00%
Levels of education		
Primary	1	0.30%
Standard 6	33	9.90%
Standard 8	156	46.80%
Matric	100	30.00%
Tertiary (Technikon)	25	7.50%
Tertiary (University)	18	5.40%
Participants not employed	335	96.5%
Participants living on their own	34	10.5%
Participants living with at least one parent	108	47.8%
Participants living with a relative	42	18.6%

Predictors of Intention to Use a Condom Consistently with Every Sexual Encounter

Table 3 presents the correlations as well as the results of the hierarchical stepwise analysis including the predictors of intention to use a condom consistently with every sexual encounter.

The intention to use a condom consistently with every sexual encounter in the next three months showed strong positive correlations with subjective norms (r = 0.61) to use a condom consistently, and the subjective norm (r = 0.51) and intention (r = 0.52) to reduce alcohol and marijuana use. A moderate positive correlation was found for perceived behavioural control to use a condom consistently with every sexual encounter (r = 0.23). Weak positive correlations were found for attitude towards consistent condom use, attitude and perceived behavioural control towards reducing alcohol and marijuana use, and attitude, perceived behavioural control and intention towards behaving as a responsible man. Condom knowledge and HIV knowledge also showed significant but weak positive correlations.

In the first step of the multiple regression analysis, attitude, subjective norm, and perceived behavioural control explained 46% of the variance in the intention to use a condom consistently with every sexual encounter, showing significant contributions of subjective norm and perceived behavioural control. The second step explained an additional 7% of variance ($p \leq 0.001$), with additional significant contributions of subjective norm and intention towards reducing alcohol and marijuana use. The third step added the condom and HIV knowledge variables, which did not add any additional variance. The fourth step introduced the responsible manhood variables, which did not add any additional variance to our model, but removed the significant contribution of perceived behavioural control towards using a condom consistently

with every sexual encounter. Finally, in the fifth step, adding demographic variables and past alcohol and marijuana use also explained no additional variance. The final model explained 52% of the variance in the intention to use a condom consistently with every sexual encounter with unique significant contributions of the subjective norm toward consistent condom use as well as the subjective norm and intention to reduce alcohol and marijuana use.

Table 3. A stepwise hierarchical regression testing the constant, intention to use a condom consistently with every sexual encounter against the predictors, substance use, knowledge, responsible manhood, demographic and past behaviour variables.

Model		Step1		Step2		Step 3		Step 4		Step 5	
	r	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)
Use condoms consistently with every sexual encounter											
attitude	0.113 *	0.02	0.01 (.074)	−0.03	−0.02 (.077)	−0.04	−0.02 (.077)	−0.03	−0.02 (.078)	−0.03	−0.02 (.080)
subjective norm	0.619 **	0.61	0.65 *** (.041)	0.49	0.52 *** (.043)	0.49	0.52 *** (.043)	0.48	0.51 *** (.044)	0.48	0.52 *** (.045)
perceived behavioural control	0.230 **	0.13	0.10 *** (.066)	0.13	0.10 *** (.063)	0.13	0.10 *** (.063)	0.12	0.09 (.065)	0.11	0.08 (.066)
Reduce alcohol and drug use											
attitude	0.137 *			−0.04	−0.03 (.053)	−0.04	−0.03 (.053)	−0.03	−0.03 (.054)	−0.04	−0.03 (.055)
subjective norm	0.517 **			0.14	0.13 *** (.054)	0.14	0.12 *** (.055)	0.14	0.12 *** (.056)	0.15	0.13 *** (.057)
perceived behavioural control	0.135 *			−0.01	−0.00 (.058)	−0.02	−0.02 (.059)	−0.03	−0.02 (.061)	−0.03	−0.02 (.061)
intention	0.528 **			0.23	0.22 *** (.052)	0.23	0.21 *** (.052)	0.23	0.21 *** (.053)	0.23	0.21 *** (.054)
Knowledge of HIV and condoms											
Condom knowledge	0.141 **					0.02	0.00 (.160)	0.01	0.00 (.162)	0.01	0.00 (.163)
HIV knowledge	0.143 **					0.38	0.06 (.254)	0.35	0.05 (.258)	0.31	0.05 (.261)
Responsible Manhood											
attitude	0.105 *							0.01	0.02 (.025)	0.01	0.02 (.025)
subjective norm	0.017							0	0 (.019)	−0.00	−0.00 (.019)
perceived behavioural control	0.161 **							0.02	0.03 (.026)	0.02	0.03 (.026)
intention	0.122 *							−0.01	−0.01 (.044)	−0.01	−0.01 (.044)
Demographic											
age	0.03									−0.01	−0.00 (.063)
level of education	0.092									0.07	0.06 (.049)
relationship status	−0.044									0.13	0.06 (.089)
Past behaviour											
marijuana use	0									−0.00	−0.00 (.032)
alcohol use	−0.022									−0.04	−0.03 (.051)
number of sexual partners	−0.043									0.03	0.02 (.067)
Constant		1.14		0.52		0.35		0.20		−0.18	
F-change		87.7 ***		11.1 ***		1.1		0.2		1.0	
Adjusted R Square		0.46		0.53		0.53		0.52		0.52	

Note for regression *** $p < 0.05$ and for correlations ** $p < 0.01$, * $p < 0.05$; b = unstandardized Beta, β = standardized Beta, $n = 350$.

Discussion

Condom usage at the most recent sexual encounter, as reported in the 2012 South African National HIV Prevalence, Incidence and Behaviour Survey, dropped from 45.1% to 36.2% between 2008 and 2012 for both men and women across all age groups (Shisana et al., 2014). Various reasons have been given for this, the first being that condom usage may have initially been overestimated, secondly that prevention messages promoting condoms were no longer receiving the attention they used to get, and lastly that perhaps because of the widely available ART, people now engage in risky sexual behaviour as they deem protection unnecessary (Shisana et al., 2014). The need to understand the psychosocial determinants that could have contributed to this condom use decline is more serious than previously thought, particularly among communities who are at a high risk of HIV infection. Our sample is at an increased risk of STIs, including HIV infection, because 73% of the participants reported having multiple sexual partnerships, which makes them highly susceptible to HIV infection spread through unprotected sex (Shisana et al., 2014).

The objective of this paper was to investigate the determinants of the intention to use condoms among young men living in KZN, using the Theory of Planned Behaviour as the guiding framework. We found that the intention to use a condom consistently with every sexual encounter showed strong correlations with the subjective norm to use a condom consistently. Most notably we found that the proximal TPB constructs of subjective norms and perceived behavioural control explained a total of 46% of the variance in the intention to use a condom consistently with every sexual encounter. This finding is comparable to other studies (Boer & Mashamba, 2007; Eggers et al., 2016; Fazekas, Senn, & Ledgerwood, 2001; Giles et al., 2005) in African countries, which have also shown subjective norms to be a stronger cognition predictor of intention to use condoms when it is compared to other proximal cognition constructs, namely attitudes and perceived behavioural control. The total variance in intention to use condoms explained in these other studies ranges between 22% and 67%, however it has been recently reported that in general the predictive value for TPB constructs in sub-Saharan Africa is on average less than that of North American and European studies (Eggers et al., 2016).

With subjective norms seen as prominent in the current study, this suggests that young men in the KZN community are strongly influenced by what significant people in their lives think about their behaviours. The young men have a strong motivation to comply with the opinions of these people. This finding supports the assertion that decision-making in indigenous African communities is more communal, collaborative, and less individualistic (Airhihenbuwa & Obregon, 2000; Giles et al., 2005). The structure of living arrangements in South African communities, particularly the ones surveyed in the present study, is such that the nuclear family

as often seen in the Western world is rare. Less than half of the participants live with at least one parent (47.8%). The majority of these participants live in small dwellings with their siblings and extended family members.

Furthermore, our findings suggest that the young men have a strong belief in their own ability to use condoms consistently with every sexual encounter, this being supported by the significance of perceived behavioural control as a predictor of the intention to use condoms, which was similarly found in other studies (Kalolo & Kibusi, 2015; Lugoe & Rise, 1999). The reasons for this strong belief may be influenced by a number of factors. It has been shown that condom use intention does not automatically translate into actual behaviour without certain important preparatory behaviours like buying and carrying the condom, being able to negotiate its use with the sexual partner, and lastly having the skills to use it correctly (Van Empelen & Kok, 2008). The strong belief in their own ability to use condoms exhibited by the young men under study could be attributed to any one or more of these considerations. With regards to just access to condoms alone, in South Africa, government health facilities provide free condoms. Gender inequality and intimate partner violence have been shown to be important factors when considering condom usage in sexual relationships (Jewkes et al., 2003). These gender dynamics may play a role in making young men more confident in their power to use condoms in the future. Previous research has shown how existing social norms and social power are correlated, and that individuals with social power tend to influence social norms (Albarracín et al., 2004). The power relations in condom use negotiation reveal that women mainly attributed the lack of condom usage to the fact that their sexual partners refused to use it (Eisele et al., 2008), while other research details multiple tactics men were found to employ in their attempt to avoid condom use (Davis et al., 2014), therefore the confidence seen in the young men under study could be due to their knowledge that they hold the power to dictate condom usage in their respective sexual relationships. The findings by Eisele et al. (Eisele et al., 2008) are however contradictory to Bryan et al. (Bryan et al., 2006), who had earlier found that in heterosexual relationships, it was mostly girls who reported significantly higher control over sexual encounters, therefore Bryan et al. concluded that it was girls who mainly decide whether a sexual activity will occur or not. It is interesting that both these studies with contradictory findings were conducted in South Africa, which should motivate further research into the determinants of condom use negotiation in these communities. Research into the determinants of condom use should also be cognizant of the evidence in support of the correct usage of condoms, whereby condom breakage, slippage and the use of condom-compatible lubrication are taken into account (Coyle, Franks, Glassman, & Stanoff, 2012; Lee et al., 2016; Sanders et al., 2012).

When substance use variables were included into the model, we found that the intention to use a condom consistently with every sexual encounter showed strong

correlations with the subjective norms and intention to reduce alcohol and marijuana use. In the regression both subjective norms and intentions to reduce alcohol and marijuana use were shown to explain a further 7% of the variance in the intention to use a condom consistently with every sexual encounter. The young men who had positive intentions towards reducing risky behaviour for alcohol and marijuana use also intended to use condoms with every sexual encounter. This finding is comparable to a recent study (Manyaapelo et al., 2016) which reported similarly that surveyed participants who had strong intentions to reduce harmful substance use were also more likely to avoid engaging in risky sexual encounters. Again, here we see how meaningful others (i.e., the people who are in the participant's immediate environment and whose opinions are regarded as important in decision-making) play an important role in their intention towards more positive behaviour choices. For example, customs dictate that a father's brother or a mother's brother be afforded the same respect as the father. These older men can exercise considerable influence on our participants, especially in instances where fathers work far from the home, which is commonplace in South Africa.

Condom and HIV knowledge variables showed significant but weak correlations with the intention to use a condom consistently with every sexual encounter, and were not shown to be significant for the regression. The more knowledge the participants have of condoms and HIV, the more likely they were to use a condom. In previous studies, it has been shown that knowledge does not necessarily have an impact on behaviour. More recently it has been reported that it is actually the quality of the knowledge and not that amount that is important in determining condom usage for both males and females (Lammers, van Wijnbergen, & Willebrands, 2013).

Past behaviour related to substance use did not yield any significant correlations and did not explain any additional variance. Previous studies show that the type of behaviour (whether habitual or not) as well as the context play an important role in predicting future behaviour (Albarracín et al., 2001; Ouellette & Wood, 1998). Simply put, it means that the more a person engages in a specific behaviour in a specific context, the more the initiation and control processes of that behaviour become automatic. In situations where there are unstable contexts such as in condom use, it becomes difficult to maintain this automatic process. This lack of significance is further attributed to the theoretical notion of TPB that the effect of past behaviour is mediated by more proximal cognitions (Ajzen & Fishbein, 2005). Typically, the relationship between behaviour, such as condom use and alcohol or marijuana use, is present in that moment when the individual is intoxicated so it is expected that past substance use will not predict future intentions to use condoms. Level of education did not show any significant correlation with the intention to consistently use a condom and did not add any additional variance. In previous research, condom use was associated with higher levels of education (Sunmola, 2004). This lack of significance could also be due to the variable being mediated by more proximal cognitions.

The newly constructed responsible manhood variables showed significant but weak correlations for attitudes, perceived behavioural control and intentions towards being a responsible man, however, these variables didn't explain any additional variance. Although the addition of these responsible manhood variables did not explain any additional variance, it is interesting to note that they cancelled the significance of perceived behavioural control to use a condom consistently in the final model, implying that notions of responsible manhood and control beliefs could be more intricately linked. Understanding the role of the concept of responsible manhood definitely warrants more investigations.

Our findings suggest that interventions to use condoms should target both the normative beliefs and control beliefs towards using condoms consistently, and also target the psychosocial correlates towards the reduction of alcohol and marijuana use. This can be achieved, for example, by showing positive peer support for risk prevention and by building personal resistance against social pressures for risk-taking behaviour, and by enabling physical as well as social environments that facilitate condom use. Facilitating free access to condoms at drinking establishments is one way. Another way could be to have prominent people in targeted communities speak publicly about using condoms and exercising safe sexual practices.

Limitations

A possible limitation of this study is the responsible manhood concept, which should be investigated and developed further. A potential reason why this study was unable to show strong correlations with the responsible manhood constructs may be because the constructs and variables were recently developed and did not thoroughly test what had been intended. As this concept is still in the development stages, the constructs and variables should be further developed and validated for future studies. The results showed that about a third of men in the study engage in substance use. These figures may well be inflated due to the large number of unemployed men sampled. This bias could have inadvertently been as a result of the inclusion criteria, which restricted availability of the potential participants to working hours during the week (08:00 to 17:00, Mondays to Fridays).

Conclusions

The findings in this study show that subjective norms and perceived behavioural control are important cognitive constructs in the prediction of intention to use condoms consistently among young men in KZN, a province in South Africa. Our research results therefore imply that health education interventions should focus on changing the normative beliefs as well as control beliefs of the target population, but also encourage substance use reduction interventions since substance use is negatively associated with condom use.

CHAPTER 5

5

The psychosocial determinants of the intention to test for HIV among young men in KwaZulu-Natal Province, South Africa

Under review as:

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Abstract

Voluntary Counselling and Testing is one of the prevention strategies that works to curb the HIV/AIDS epidemic. This study investigates psychosocial determinants of intention to test for HIV among young men in KwaZulu-Natal province using the theory of planned behaviour as the guiding framework. A facilitator-administered questionnaire was used to collect data among 350 isiZulu speaking men between the ages of 18 and 35. Results show that 24% reported ever having tested. Intention to test showed strong positive correlations with subjective norm to test (r = .67), intention to use condoms (r = .65), intention to reduce alcohol use (r = .60), subjective norm to reduce alcohol use (r = .54), and subjective norm to use condoms (r = .51). For multiple regression, attitude, subjective norm and perceived behavioural control explained 43% of the variance in intention to test, with subjective norm and perceived behavioural control making significant unique contributions. An additional 12% of the variance was explained by intention to reduce alcohol, use condoms and towards responsible manhood. Behavioural interventions towards HIV testing among men should target normative and control beliefs but also other risky behaviours (alcohol use and condom use) as reductions in these behaviours appear to be positively associated with motivation for HIV testing.

Introduction

The World Health Organization (WHO) and UNAIDS (Joint United Nations Programme on HIV/AIDS) has adopted Voluntary Counselling and Testing (VCT) as one of the prevention strategies to curb the human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS) epidemic. For this strategy to be effective the broader aims of VCT will have to be achieved, and these aims include a series of interdependent processes which start when people are identified through quality testing services, this is then followed up by linking these people to treatment and support services should they be HIV positive and lastly scale up high-impact interventions to reduce HIV transmission and related morbidity and mortality (World Health Organization, 2016). There have been efforts over the years to expand HIV testing to as many people as possible according to the UNAIDS 90-90-90 targets aimed for the year 2020 (UNAIDS, 2014). This goal seeks to see 90% of the people living with HIV knowing their status, to have 90% of the people who know their status to be on treatment, and lastly to have 90% of the people on treatment have a suppressed viral load.

VCT is particularly important since South Africa has one of the highest prevalence rates at 19.1% among age group 15 -49 years and even higher rates of up to 30% in the province of study, KwaZulu-Natal (KZN) (Shisana et al., 2014). Of the estimated 36.7 million people currently living with HIV globally, only 19.5 million people are on antiretroviral therapy (ART) (World Health Organization, 2017). South Africa has made significant strides in this regard by placing nearly half (47%) of the people living with HIV on ART (UNAIDS, 2016) and most notably by reducing the annual transmission rate from 410 000 people in 2011 to approximately 270 000 people in 2016 (SANAC, 2017). Despite these achievements of placing people living with HIV on lifesaving treatment there still remains a number of challenges related to VCT. VCT is client or provider initiated and is administered at either a health testing facility or in the community (Witzel, Lora, Lees, & Desmond, 2017). Some of the challenges or barriers that impede the uptake of VCT are structural while others can be classified as personal or psychosocial.

The structural barriers are associated with conventional HIV testing facilities and these include but are not limited to the distance from the facility, confidentiality concerns, long waiting time, and negative evaluations of the health care staff (Mohlabane, Tutshana, Peltzer, & Mwisongo, 2016; Monisha Sharma, Ying, Tarr, & Barnabas, 2015). There has been a recent call to support the community based testing of HIV over the health care facility based testing (Suthar et al., 2013; Witzel et al., 2017). Community testing facilities have been found to be very versatile in the sense that they can be provided in different places such as homes, workplaces or by mobile services. This is why these different facilities are better suited to reach and get many more people tested (Sharma et al., 2015). It has been reported that

when it comes to accessing health care in general men do not participate as readily as women do. One of the reasons given is that women are more sensitized to health care due to their need for reproductive and antenatal services (Van Heerden et al., 2015). Other factors which contribute to low uptake of VCT by men include the societal expectations for men to be more resilient and fearless (Mburu et al., 2014; Nyamhanga, Muhondwa, & Shayo, 2013). Therefore as a consequence men present to the health facility much later in their illness as opposed to earlier when a more favourable outcome was possible (Chikovore, Gillespie, Mcgrath, & Orne-gliemann, 2016). In another study where HIV testing facilities were purposefully located closer to public transportation, where opening hours were extended and the facility was converted to a men only center, it was found that there was a monthly increase in the number of men attending (Cornell, Cox, & Wilkinson, 2015). The psychosocial factors that contribute to the low uptake of HIV testing include the fear of testing positive, low perceived risk of infection, and the fear of being stigmatized should the test be positive (Blondell, Kitter, Griffin, & Durham, 2015; De Jesus, Carrete, Maine, & Nalls, 2015; Meiberg, Bos, Onya, & Schaalma, 2008; Scott-Sheldon et al., 2013; Sharma et al., 2015). An understanding of both the structural and psychosocial aspects of HIV testing is important for developing future behavioural interventions.

Although previous research has reported extensively on the structural factors associated with the poor uptake of VCT services in general, there is a paucity of theory-informed studies investigating the behavioural determinants of the uptake of VCT-services. Moreover even fewer studies utilize the theory of planned behaviour (TPB), which so far has been the most commonly used social cognitive framework to identify psychosocial determinants of health behaviour (Conner & Sparks, 2005; Conner & Norman, 2015). The theory of planned behaviour is an extension of the theory of reasoned action and was now recently explained in what the originators of the theory call the reasoned action approach (Fishbein & Ajzen, 2010). TPB posits that behavioural intention is determined by three evaluative constructs: attitude, subjective norm, and perceived behavioural control. Attitude represents a person's overall evaluation of the anticipated outcomes (favourable vs unfavourable) of the behaviour. Subjective norm is the perceived social pressure to engage or not engage in a behaviour. Perceived behavioural control is people's perceptions of their ability to perform a given behaviour (Ajzen, 1991).

The theory of planned behaviour based studies have shown that although cognitive constructs do influence the intention to test for HIV, they do so in a variety of combinations across the different studies. In a study investigating the intention to test for HIV among a population of women attending antenatal counselling, it was found that both attitude and subjective norm contributed significantly to explain the variance in intention for both women and their male partners (Mirkuzie, Sisay, Moland, & Astrøm, 2011). Attitude and perceived behavioural control showed a significant contribution in two African studies: one investigating married couples

in Tanzania where perceived behavioural control showed the largest influence on HIV testing motivation (Mtenga, Exavery, Kakoko, & Geubbels, 2015), the second among Nigerian university students where TPB variables explained 35% of the variance in HIV testing intention and perceived risk contributed an additional 2% to the final model (Olabode, 2017). Perceived behavioural control is also reported to be the strongest predictor in another study among teachers (male and female) in Tanzania (Kakoko, Åstrøm, Lugoe, & Lie, 2006), while for teachers in Ethiopia it was subjective norm and attitude which contributed more to the intention to test for HIV (Omer & Haidar, 2010). In another study in Ethiopia among health professionals (male and female), it was reported that subjective norm and attitude were the most important contributors to an explanation of the variance in the intention to test for HIV (Abamecha, Godesso, & Girma, 2013). Furthermore, a study in the US among men who had sex with men demonstrated that the predictive capability of TPB was doubled when behaviours related to information exposure, use of information related to HIV testing decisions, and experience obtaining an HIV test were added to the original model (Meadowbrooke, Veinot, Loveluck, Hickok, & Bauermeister, 2014). The original model had only explained 18.1% of the variance in intention but the adapted model explained 41% of the variance with both attitude and perceived behavioural control having a significant contribution. The overall variance explained by these studies ranges between 9.2% and 41%. These previous studies demonstrate how the predictive capabilities of TPB varies in different contexts.

In this study we report on the baseline dataset collected in the development and adaptation of a life skills behavioural intervention among young men in KZN. The study aimed to investigate the psychosocial determinants of the intention to test for HIV using the theory of planned behaviour as the guiding framework. We also included a broader range of factors and other behaviours that could serve as possible determinants of the intention to test for HIV. Demographic determinants such as age and level of education are significantly associated with acceptance of VCT (Johnston et al., 2010). Studies have also shown that having high HIV knowledge does not necessarily mean that people will test for HIV (Oppong Asante, 2013), but those who have undergone HIV testing are likely to be more knowledgeable about HIV transmission than those who have not tested (Haile, Chambers, & Garrison, 2007) and more importantly those who have tested show a reduction in risky sexual behaviours (Scott-Sheldon et al., 2013). Previous studies have also shown that alcohol and drug use have a negative impact on the decision to use condoms (Castilla, Barrio, Belza, & de la Fuente, 1999; Rehm, Shield, Joharchi, & Shuper, 2012). Furthermore, the decision to use condoms is associated with the number of sexual partners a person has whereby men reporting multiple sexual partnerships were likely to have used a condom at last sex (Onoya et al., 2015). Interestingly, having never tested for HIV has been reported to be a predictor of multiple sexual partnerships (Mlambo et al., 2018). Risky sexual behaviours should therefore not be examined in isolation but should be studied in terms of how they influence one

another. Additionally, masculinity norms traits have been shown previously to an impact on men's decisions to access health care and this includes testing for HIV (Sileo et al., 2018). It is reported that men fear that a positive result will impact on their status as a provider and limit their successes with other women (Fleming, Diclemente, et al., 2016; Sileo et al., 2018).

This study sought to better understand the intention for HIV testing by also examining the determinants of other risky behaviours such as condoms use, alcohol and drug use and behaving like a responsible man. We introduced these variables relating to alcohol and marijuana use because of the general negative influence they have on healthy decision making (Charnigo et al., 2013; Pattij et al., 2008). The concept of responsible manhood was also introduced in an attempt to extend the predictive capabilities of the theory of planned behaviour. The communities where the young men are drawn from were largely traditional and still practiced customs such as lobola or bride price, which were recognized as an act of responsibility wherein young men are expected through their own efforts to gather resources that will allow them a future marriage. By extension there is also an expectation of the male being responsible for maintaining their future household (Hunter, 2006). This act is seen as responsible male behaviour whereas impregnating a young woman whom a young man is not married to is frowned upon and highly discouraged as irresponsible behaviour (Hunter, 2006). We then proceeded to construct a new variable derived from concepts of supportive male roles together with those discouraging hurtful behaviours in intimate relationship partners. The rationale for introducing this concept of responsible manhood was to see if the idea or act of being a responsible man could have any association with the intention to test for HIV. Additionally, we conducted a preliminary survey in these communities which found that alcohol use and marijuana use were perceived to be high among young people in the community. This therefore reinforced our decision to include measures of alcohol and drug use. In summary, the decision to test for HIV is influenced by other behaviours such as condom use, substance use, multiple sexual partnerships as well other factors such as HIV knowledge and masculinity norms. The objectives of this study were to investigate the psychosocial determinants of the intention to test for HIV among young men in the South African province of KwaZulu-Natal by using the theory of planned behaviours as the guiding framework.

Materials and methods

Study Design

This article reports on the baseline data which forms part of a larger dataset collected in the development and testing of a health behaviour intervention targeted at young men in the province of KZN. The intervention sought to encourage a reduction in risky sexual behaviours such as non-condom use, not testing for HIV, multiple sexual partners, engaging in sexual activities when under the influence of alcohol and illicit

drugs, and lastly the intervention attempted to encourage young men to play more supportive positive male roles in their respective communities. The study received full ethical clearance from the South African Medical Association Research Ethics Committee (SAMAREC- Protocol MRC 1-09), which works according to the guideline of the Helsinki Declaration on ethical aspects in human experimentation, and additionally the research team also sought and received permission from the local municipal offices and the traditional leadership in the area concerned. Participants gave written informed consent to participate in the study.

Participants and Study Setting

The study was conducted in the province of KwaZulu-Natal on the north-eastern coast of South Africa. It is the second most populated province at 10.8 million people with 89.4% being African, 7.1% Indian/Asian, 2.4 % White, and 1.0% Coloured (Statistics South Africa, 2016). The inclusion criteria for the sample was: heterosexual males between the ages of 18 and 35 who were isiZulu speaking, resided in the area and indicated availability for a follow-up at 6 months post intervention. The research participants were recruited from multiple community sites such as schools, churches, and community organizations. Participation in the study was on a voluntary basis to all participants who met the inclusion criteria and were able to come and take part during the times allocated.

Researchers provided transport (where necessary) since the research venue was very far for some participants and a provision for refreshments was made because the sessions were approximately 3 hours long. The recruitment drive included a well-publicised initiative of talks about the study aims at community meetings, local churches and sports tournaments organised specifically for this purpose. The research team was also hosted at a local community radio station to answer any questions the community had about the study. This recruitment drive continued for nearly 12 months before commencing the study. Site A is a peri-urban locality roughly 30 km from Durban with a majority African population, while Site B is rural and approximately 250 km from Durban, also with a majority African population.

Study Instruments

Data was collected through a facilitator-administered questionnaire. This questionnaire was adapted from a previous study among male prison inmates in KwaZulu-Natal and Mpumalanga provinces (Sifunda et al., 2008, 2006). Additionally, the content for the questionnaire was derived from a literature review on the topic as well as focus group interviews among the study group. The name of this adapted questionnaire was the same as that of the main study: Ubudoda Abukhulelwa Responsible Manhood: Towards the Development of Culturally Tailored and Contextually Sensitive Life Skills Programs for Heterosexual Men in South Africa.

The questionnaire was divided into three sections, where the first section measured the demographic profile of the population in terms of age, level of education, level of income, and whether participants were involved in sexual relationships or not. The second section examined the participants' sexual risk behaviour in terms of having tested for HIV, the number of sexual partners, current substance use behaviours concerning alcohol and marijuana use. The last section focused on the psychosocial measures using the theory of planned behaviour, where attitude, subjective norm, perceived behavioural control, and intention were measured for each behaviour. The questionnaire was developed in English and translated into isiZulu, then it was translated back into English to ensure construct and face validity. The research assistants together with the project managers, who were from the same background as the research participants, were responsible for the translation process. The translations were all done in the form of a workshop with all the research assistants, project managers, and some of the co-authors (TM, SS, AN) in attendance. Consensus was reached for the correct use of language for all the research tools.

Measures and Scale Construction

HIV Knowledge

Ten single items measured knowledge of HIV using: 1 = True, 2 = False, and 3 = I don't know response options. (e.g., The HIV virus can be passed from a pregnant mother, if she is infected with HIV, to her unborn child). The responses were dichotomised as 1 = True and 0 = False or I don't know).

Multiple Partners

Sexual behaviour was measured by asking the number of sexual partners the participant had engaged in sex with in the past six months. A four-point scale was used with answering options of: 0 = not sexually active; 1 = 1 sexual partner; 2 = between 2 and 5 sexual partners, 3 = between 6 and 10 sexual partners, and 4 = 10 or more sexual partners.

Alcohol and Marijuana Use

Two single items assessed the frequency of alcohol and marijuana use in the past six months, respectively, using a five-point scale with options of 1 = never (0 days), 2 = rarely (1 to 2 days), 3 = sometimes (3 to 9 days), 4 = often (10 to 19 days), and 5 = very often (20 days or more).

Psychosocial Correlates

The variables attitude, subjective norm and intention toward testing for HIV, attitude, subjective norm and intention towards condom use, attitude, subjective norm and intention towards reducing alcohol and drug use were measured using a scale of 1 to 5 with answering options of: 1 = strongly/fully disagree, 2 = disagree, 3 = unsure, 4 = agree, and 5 = strongly/fully agree for attitude, subjective norm and

intention, while perceived behavioural control was measured using a scale of 1 to 5 with options of: 1 = very confident; 2 = confident, 3 = unsure; 4 = not confident, and 5 = not confident at all. Table 1 provides an overview of the psychosocial correlates that were measured, including the number of items, sample items, minimum and maximum score, mean score and standard deviation, and the Cronbach's Alpha (three or more items) or Pearson's *r* (two items) as a measure of the internal consistency of grouped items

Table 5: Overview of scale measures with examples

Measures and example items	Number of items	Min Score	Max Score	Mean Score	Standard deviation	Cronbach's Alpha (α)/ Pearson's r
Attitude towards testing for HIV at a VCT clinic in the next 3 months - Getting tested for HIV at a VCT clinic in the next 3 months is something that is good	6	1	5	**4.4**	**.80**	.80
Subjective Norm towards testing for HIV at a VCT clinic in the next 3 months - Most people who are important to me think that getting tested for HIV at a VCT clinic in the next 3 months is a good thing	5	1	5	**4.0**	**1.0**	.88
Perceived Behavioural Control testing for HIV at a VCT clinic in the next 3 months - For me to test for HIV at a VCT clinic in the next 3 months is possible	4	1	5	**4.4**	**.85**	.76
Intention towards testing for HIV at a VCT clinic in the next 3 months - I intend to test for HIV at a VCT clinic in the next 3 months	6	1	5	**4.0**	**1.0**	.92
Attitude towards using a condom consistently for every sexual encounter in the next 3 months - Using a condom consistently for every sexual encounter in the next 3 months is something that is good	5	1	5	**4.5**	**.73**	.81
Subjective Norm towards using a condom consistently for every sexual encounter in the next 3 months - Most people who are important to me think that using a condom for every sexual encounter consistently in the next 3 months is a good thing	5	1	5	**3.8**	**1.1**	.88
Perceived Behavioural Control towards using a condom consistently for every sexual encounter in the next 3 months - For me to use a condom consistently for every sexual encounter in the next 3 months is possible	3	1	5	**4.4**	**.83**	.70
Intention towards using a condom consistently for every sexual encounter in the next 3 months - I intend to use a condom consistently for every sexual encounter in the next 3 months	6	1	5	**4.1**	**1.0**	.92

Attitude towards reducing overall alcohol and drug intake - Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is wise	6	1	5	**4.3**	**.97**	.84
Subjective Norm towards reducing overall alcohol and drug intake - Most people who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next 3 months is a good thing	5	1	5	**3.8**	**.99**	.84
Perceived Behavioural Control towards reducing overall alcohol and drug intake - For me to reduce overall drug and alcohol intake to only one day a week in the next 3 months is possible	4	1	5	**4.2**	**.83**	.75
Intention towards reducing overall alcohol and drug intake - I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months	7	1	5	**4.1**	**1.0**	.93
Attitude towards behaving as a responsible man - A responsible man is someone who has to discipline his wife/partner when necessary using physical force	2	1	5	**3.4**	**.70**	.59
Subjective Norm towards behaving as a responsible man - Most of your community members think that a responsible man is someone who has to discipline his wife/partner when necessary using physical force.	2	1	5	**3.1**	**.64**	.73
Perceived Behavioural Control towards behaving as a responsible man -How confident are you that you will be able to look after your partner's wellbeing?	2	1	5	**2.1**	**.81**	.42
Intention towards behaving as a responsible man - I intend to discipline my wife/partner when necessary using physical force in the next 3 months	1	1	5	**3.1**	**.87**	-

Analysis

Statistical analysis was done using SPSS Version 24 (Statistical Product and Service Solutions, IBM, New York, NY, USA). Bivariate correlations analysis was used to assess associations between study measures. Hierarchical linear regression models were then used to determine the unique contribution the study measures made to explaining the overall variance in the intention to test for HIV in the coming three months. The regression was done in a six-step process starting with the more proximal predictors and ending with the more distal predictors to check for additional variance explained. In step 1, the outcome variable intention towards HIV-testing is tested against the most proximal predictors, that is attitude, subjective norm and perceived behavioural control towards testing for HIV. In step 2, intention

towards condom use, intention towards reducing alcohol and marijuana use, and intention towards responsible manhood used were added. Step 3 added attitudes, subjective norm and perceived behavioural control towards the behaviours condom use and reduction of alcohol and drug use. Step 4 added the HIV knowledge. Step 5 added attitude, subjective norm, and perceived behavioural control towards responsible manhood. Finally, the demographic variables (age, level of education) and behavioural variables (past substance use and sexual behaviour) were added in step 6.

Results

Socio-Demographic Profile of the Participants

A total of 575 young men completed the baseline questionnaire, of whom 350 (60.9%) responded "yes" to "having had one or more sexual partners in past 6 months". A sexual partner was defined as any person with whom the participant had either vaginal or anal sex.

Three hundred and fifty young men were included in this analysis. Their ages ranged from 18 to 35, with the majority (64.9%) between the ages of 18 and 20 (see Table 2). The level of education for this sample varied from primary education to tertiary education, with 40% (n = 143) of the sample having a grade 12 (high school graduation) or higher qualification. Almost all participants reported being unemployed (96.2%). Most participants lived with at least one parent or with a relative.

Sexual Behaviours and Substance Use

HIV knowledge was substantial with 88.4% who knew that they could contract HIV if they had sexual intercourse without using a condom and 78% knew that even if a person looks healthy he or she could still be infected with HIV. Just under a third (63.4%) knew that HIV can be passed from a pregnant mother to the unborn child. Only 24% of the participants answered 'Yes' to 'Have you ever visited a VCT clinic and got tested for HIV'. More than three-quarter were knowledgeable about the use of condoms, with 78.8% and 81.3% responding that condoms can prevent the spread of HIV and can also prevent pregnancies, respectively. Just over three quarters (78.3%) reported having used alcohol in their lifetime and 38.9% reported having used marijuana. A total of 36.3% of the participants used both alcohol and marijuana. About 73% of the participants reported having multiple concurrent sexual partnerships.

Table 6: Socio demographic of the participants

Characteristic	Frequency	Percentage
Age		
(18 – 20)	226	64.9%
(21 – 25)	85	24.4%
(26 – 30)	30	8.6%
(31 – 35)	7	2.0%
Levels of education		
Primary school	1	0.3%
High school	189	54.3%
Matric	100	30.0%
Tertiary	43	12.3%
Employment status		
Participants employed	12	3.4%
Participants not employed	335	96.2%
Living arrangements		
Participants living on their own	34	10.5%
Participants living with others	150	43.1%
HIV status		
Participants who have previously tested for HIV	80	24%
Participants who have previously not tested for HIV	268	77%

Predictors of Intention to test for HIV in 3 months

Table 3 presents both the correlations and the regression results for the outcome variable the intention to test for HIV. The outcome variable showed strong positive correlations with the subjective norm to test for HIV (r = .67), the intention to use condoms (r = .65), the intention to reduce alcohol and drug use (r = .60), the subjective norm to reduce alcohol and drug use (r = .54), and the subjective norm to use condoms (r = .51). Moderate positive correlations were shown with perceived behavioural control to test for HIV (r = .30) and attitude to test for HIV(r = .28). Weak but still positive correlations were shown with perceived behavioural control to use condoms (r = .22), attitude to reduce alcohol and drug use (r=.21), perceived behavioural control to reduce alcohol and drug use (r = .19), attitude to use condoms (r = .18), perceived behavioural control towards responsible manhood (r=.15), knowledge of HIV (r = .13), intention towards responsible manhood (r = .12), and lastly attitude towards responsible manhood (r = .11).

The stepwise multiple regression analysis showed that in the first step attitude, subjective norm and perceived behavioural control to test for HIV explained 43% of the variance in the intention to test for HIV, showing significant unique contributions of subjective norm and perceived behavioural control. The second step introduced the intention to reduce alcohol and drug use as well as the intention to use condoms and intention towards responsible manhood. These correlates explained an additional 12% of the variance in the intention to test for HIV, with significant contributions from intention to use condoms and intention to reduce alcohol and drug use. From the third to the sixth steps no significant additional variance was found. In these steps we introduced the cognitions of attitude, subjective norm and

perceived behavioural control towards three behaviours (reduction of alcohol and drug use, condom use and responsible manhood). We also introduced the variables knowledge of HIV, demographic, and past behaviour variables. The final model explained 55% of the variance in the intention to test for HIV in the following three months with unique significant contributions of the subjective norm toward testing for HIV, perceived behavioural control towards testing for HIV, intention towards condom use, and lastly intention towards reduction of alcohol and drug use.

Table 7: A stepwise hierarchical regression testing the constant, intention to test for HIV against the predictors, substance use, knowledge, responsible manhood, demographic and past behaviour variables

		Step1		Step2		Step 3		Step 4		Step 5		Step 6	
	r	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)	b	β (Std. Error)
Intention to test for HIV													
attitude	.283**	-.004	-.004 (.070)	-.024	-.019 (.062)	-.010	-.008 (.076)	-.010	-.008 (.076)	-.012	-.010 (.076)	-.010	-.008 (.077)
subjective norm	.674**	.572	.605*** (.043)	.290	.307*** (.052)	.258	.272*** (.060)	.258	.273*** (.060)	.268	.283*** (.060)	.264	.279*** (.061)
perceived behavioural control	.307**	.216	.185*** (.065)	.186	.159*** (.057)	.187	.160*** (.061)	.187	.160*** (.062)	.169	.144*** (.062)	.163	.139*** (.063)
Intention													
Intention condom use	.657**			.249	.271*** (.049)	.215	.234*** (.055)	.215	.234*** (.055)	.207	.225*** (.055)	.214	.233*** (.056)
Intention reduce alcohol and drug use	.607**			.283	.286*** (.045)	.276	.279*** (.048)	.276	.279*** (.048)	.280	.283*** (.049)	.276	.279*** (.049)
Intention responsible manhood	.123**			-.048	-.051 (.037)	-.044	-.047 (.038)	-.044	-.046 (.038)	-.071	-.075 (.039)	-.072	-.076 (.040)
Reduce alcohol and drug &condom use													
attitude alcohol and drug use	.211**					-025	-.025 (.050)	-025	-025 (.050)	-013	-013 (.050)	-009	-.009 (.051)
subjective norm alcohol and drug use	.541**					.052	.051 (.053)	.052	.051 (.053)	.049	.049 (.052)	.041	.041 (.053)
pbc alcohol and drug use	.195**					-.029	-.025 (.053)	-.028	-.025 (.054)	-.030	-.026 (.054)	-.039	-.034 (.055)
attitude condom use	.182**					-.027	-.020 (.076)	-.027	-.020 (.076)	-.010	-.008 (.076)	.002	.001 (.078)
subjective norm condom use	.510**					.044	.052 (.050)	.044	.051 (.050)	.032	.038 (.050)	.039	.046 (.051)
perceived behavioural control condom use	.222**					.052	.044 (.061)	.052	.044 (.061)	.041	.035 (.061)	.037	.032 (.062)
Knowledge of HIV													
HIV knowledge	.139**							-.010	-.002 (.227)	-.076	-.014 (.227)	-.025	-.005 (.231)
Responsible Manhood													
attitude	.117*									.046	.085 (.022)	.048	.089 (.022)
subjective norm	.003									.009	.020 (.017)	.010	.024 (.017)
perceived behavioural control	.150**									.022	.040 (.023)	.022	.040 (.023)
Demographic and Past behaviour													
age	-.027											-.043	-.032 (.056)
level of education	-.037											-.044	-.043 (.044)
relationship status	-.047											.037	.019 (.079)
marijuana use	.077											.033	.048 (.029)
alcohol use	-.010											-.001	-.001 (.045)
number sex partners	-.070											-.027	-.018 (.059)
Constant		.887		.223		.196		.200		-.188		-.091	
F-change		76.6***		28.7***		.578		.002		1.999		.769	
Adjusted R Square		.43		.55		.55		.55		.55		.55	

Discussion

The objective of our study was to examine the psychosocial determinants of the intention to test for HIV among young men in KZN using the theory of planned behaviour as our framework. We also introduced variables related to alcohol and marijuana use as well as variables assessing responsible manhood in an attempt to assess their influence on the intention to test for HIV. The regression analysis shows that the most proximal cognitions (attitude, subjective norm and perceived behavioural control to test for HIV) explained 43% of the variance in the intention to test for HIV. Subjective norm and perceived behavioural control made the most significant contributions to this model. These findings are comparable to previous studies which reported subjective norm and perceived behavioural control as having had significant contributions in explaining the variance (Abamecha et al., 2013; Kakoko et al., 2006; Mtenga et al., 2015; Omer & Haidar, 2010). The total explained variance in these studies ranges between 9 and 41%, the upper end being the most comparable to the present study. It should be highlighted that in developing our measurement tools of the TPB constructs we followed closely the guidelines outlined for the construction of measures of TPB variables (Ajzen, 2006). In particular we took notice of the compatibility principle and thus ensured that our measures of attitude, subjective norm and perceived behavioural control were specific to the intention in question (Ajzen & Fishbein, 2005).

The results suggest that our participants' intention to test for HIV is very strongly influenced by the opinions of people whom our participants hold in high regard. Additionally, the strong influence of perceived behavioural control suggests that if the behavioural intervention was to strengthen their feelings of personal control on their decision to take an HIV test, it would strengthen the motivation to do so. The ability of intention to correctly predict behaviour is rendered less effective when actual control is absent (Ajzen & Fishbein, 2005). Participants in the current study have perceptions of control which could be attributed to the numerous, widely accessible free testing facilities provided by the government. Having these facilities addresses part of the structural barriers to getting tested and therefore may influence perceptions of having control in the decision to test or not.

Previous research in South Africa reports that the major barriers to HIV testing are more personal than structural (Mohlabane et al., 2016; Weihs & Meyer-Weitz, 2016) and this is also true for Europe (Deblonde et al., 2010). These barriers include being scared of what people might say, fear regarding lack of confidentiality, fear of getting an HIV positive result, fear of being stigmatized or discriminated against if one tests positive, embarrassment of divulging personal information to health workers and low levels of perceived HIV risk. Additionally high levels of psychological distress including depression and anxiety have been shown in people seeking to test thereby negatively affecting both the intention to test and adherence to ART in the event

the HIV test was positive. (Kagee, Saal, & Bantjes, 2017; Nothling & Kagee, 2013; Saal & Kagee, 2011). Factors such as being scared of what people may say and fear of being stigmatized speak directly to the findings of the present study concerning the normative beliefs of a given community. In other words, what is perceived to be normal in a community can influence how members of that community ultimately behave. For example, if positive social evaluations such as testing for HIV were to be reinforced and promoted while the stigma against testing was rebuked by the same community then this may encourage more people to test. It is also interesting to note that these normative beliefs do not have to be overwhelmingly convincing because it has been shown that even weakly held beliefs were sufficient to cause action (Amjad & Wood, 2009).

In the second step of the multiple regression we introduce the variables: intention to reduce alcohol and drug use, the intention to use condoms and lastly the intention towards responsible manhood which contributed an additional 12% to the variance ($p \leq 0.01$) in the intention to test for HIV with significant contributions by intention to use condoms and the intention to reduce alcohol and drug use. Therefore it would be useful that when developing behaviour change interventions researchers should not only target the specific behaviour in question but investigate broadly to find out if there are any 'low hanging fruit' (i.e., related risk behaviours) that can also be potentially changed (Vigen & Mazur-Stommen, 2012). A positive change in the related risky behaviours may in turn have a positive effect on the target behaviour.

The addition of the measures related to responsible manhood (attitude, subjective norm, perceived behavioural control), as well as measures of HIV knowledge, and indicators of social demography and past behaviour did not yield any significant change in the variance of the intention to test for HIV. It is not surprising that HIV knowledge and past behaviour did not yield any significant association. Research shows that even though high levels of HIV knowledge and reduced HIV-related stigma are positively correlated to having had an HIV test in the past, they do not have a significant relationship with intention to test for HIV in the future (Okumu et al., 2017). Previous studies further show that past behaviour does not necessarily predicts future behaviour because factors such as the type of behaviour as well the context under which the behaviour is performed are pivotal to the prediction (Ouellette & Wood, 1998). The newly constructed variables attempting to assess responsible manhood showed significant but weak correlations for intention, perceived behavioural control and attitudes towards responsible manhood, but did not explain any additional variance in intention to get tested. These new constructs need to be investigated further because they help to explain the social and sexual contexts of the communities in question.

What is pivotal to understand is that testing for HIV should not be viewed in isolation but as an action that is more than likely preceded by incidents of risky sexual behaviour. More importantly, sexual behaviour in itself is a result of complex emotional or biological processes. Therefore, in order to fully explain the psychosocial determinants of testing for HIV we need to also understand risky sexual behaviour more intently. Previous literature suggest that very few studies provide evidence for the validity of health behaviour theories in predicting sexual behaviour (Huebner & Perry, 2015). More specifically when looking at the theory of planned behaviour issues such as the time gap between measurement of TPB variables and the subsequent behaviour as well as measurement error in the assessment of predictors of intention account for part of the variance in intention not explained by tested models (Ajzen, 2015; McEachan et al., 2011). Future studies should thus be mindful of some of the limitations of TPB so that where appropriate, researchers should carefully segment the target population under investigation. Doing this would enable better prediction capabilities of the tested models since socioeconomic status and education for example, have recently been shown to moderate between intention and behaviour albeit in different contexts (Conner, McEachan, Lawton, & Gardner, 2017).

Another important aspect to consider is that the individual's behaviour is controlled by two processes. These are the deliberative processes which are governed by the rational and conscious decision making on any given action and the second processes are the implicit and these are governed by the spontaneous, non-conscious influences (Hagger, 2016). Some of the leading proponents of the social cognitive approaches do acknowledge that social cognitive theories do not provide a comprehensive account for social behaviour (Aarts & Dijksterhuis, 2000; Doll & Ajzen, 1992). Future studies should therefore consider social cognitive approaches that incorporate a dual process of investigating behaviours.

Study limitations

This cross-sectional study was conducted between the hours of 08:00 and 17:00 from Mondays to Fridays. This led to inadvertently sampling a larger number of unemployed men who were also substance users. This sampling bias affects the quality of the generalizability of the results. The concept of responsible manhood needs to be further developed and investigated in the African context to yield a better contribution to our understanding of its role in HIV transmission. The extension of TPB variables that are hypothesized to aid in the prediction capabilities need to be carefully considered, for example, past behaviour directly associated with HIV testing should be included in future studies.

Conclusions

This study was able to demonstrate the effectiveness of the theory of planned behaviour in explaining the intention to test for HIV in a sample of young men in KZN. The significant contributions of subjective norm and perceived behavioural control suggest that behavioural interventions should target normative beliefs as well control beliefs regarding the intention to test. What is also highlighted is that participants who had intention towards more positive behaviours such as condom use and reduction of alcohol and drug use also reported stronger intention to test for HIV. This suggested that behavioural change interventions should also aim to target other closely related risky behaviours which may be easier to change than the behaviour in question.

CHAPTER 6

6

Effectiveness of a health behavioural intervention aimed at reduction of risky sexual behaviours among young men in KwaZulu-Natal, South Africa

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Abstract

Two studies evaluating the same behavioural intervention were conducted in two areas in the KwaZulu-Natal province of South Africa using a randomized pre-test post-test control group design for study 1 (peri-urban) and a pre-test post-test design without a control group for study 2 (rural). The intervention included discussions and skills training on: (1) notions of masculinity, manhood, and responsibility, (2) personal and sexual relationships, (3) general communication skills, and (4) alcohol and other substance use. The intervention was aimed at men between 18 and 35 years of age. Measures of attitude, subjective norms, perceived behavioural control and intention for condom use, human immunodeficiency virus (HIV) testing, reduction of alcohol and drug use, avoiding sex while intoxicated, and avoiding sex with intoxicated people were assessed using a facilitator-administered questionnaire. The results for study 1 showed that 4 of the 19 variables scored significantly different at baseline and that all 19 variables showed no significant changes between pre-test and post-test. For study 2, one significant difference was found for attitude towards avoiding sex when one is intoxicated. Overall, the intervention had minimal success with just one area of positive effect. Further development and testing of this programme is recommended before it can be considered for broader scale implementation.

Introduction

South Africa has the largest population of people infected with HIV, at 7.9 million people (Human Sciences Research Council, 2018), and the province of KwaZulu-Natal has the highest rate of human immunodeficiency virus (HIV) infection in the country (McKinnon & Karim, 2016). Risky sexual behaviours remain one of the major contributors to new HIV infections and continue to hamper prevention strategies. Key risky behaviours include multiple concurrent sexual partnerships, non or incorrect and inconsistent use of condoms, and engaging in sexual activities while intoxicated or under the influence of illicit substances (Jana, Nkambule, & Tumbo, 2008; Mlambo et al., 2018; Shai, Jewkes, Nduna, & Dunkle, 2012; Toska et al., 2017). It is important that these behaviours are not observed in isolation from each other. For instance, people who report having more than one sexual partner are more likely to use condoms compared to those in monogamous relationships, they tend to have their sex debut at a younger age, have a greater number of lifetime sex partners, and are less likely to have been tested for HIV (Heeren et al., 2014; Mlambo et al., 2018; Onoya et al., 2015). There is also evidence showing that inconsistent condom use and multiple sexual partnerships can be attributed to the use of alcohol and other drugs (Asher, Hahn, Couture, Maher, & Page, 2013; Rosengard, Anderson, & Stein, 2004). This is particularly important for sexually transmitted infections (STI) and HIV transmission since alcohol consumption can affect sexual decision making through its effect on higher executive control functions such as time estimation, attention, planning, decision-making, and inhibitory control (Le Berre, Fama, & Sullivan, 2017).

In a recent study on condom use among young people in South Africa, a surprising finding was that the perceived risk of HIV infection was found to not be a significant predictor of consistent condom usage (Muchiri, Odimegwu, & De Wet, 2017). Condom use for the 15–24 year old age groups was about 49% for women and 67% for men in both the 2012 and 2017 HIV national surveys, suggesting that condom usage had remained largely unchanged over this time period (Human Sciences Research Council, 2018). There was however a condom use increase for the 25–49 year old group over the same period, with a 3.3% increase for women and a 4.1% increase for men (Human Sciences Research Council, 2018). These findings on recent trends in condom use behaviour among the South African population suggest that more efforts are needed to increase condom use among young people to enhance HIV prevention. Globally, the decline in new infections has remained static since 2010, with some of the countries reaching the set targets while other countries struggle. It is evident that all known strategies in HIV prevention should be employed if the goal to end acquired immunodeficiency syndrome AIDS by 2030 is to be achieved (UNAIDS (Joint United Nations Programme on HIV/AIDS), 2014; UNAIDS, 2017). The present study is such an attempt to assist in HIV prevention efforts, specifically targeting young men.

In Sub-Saharan Africa several STI/HIV-focused interventions covering different aspects of HIV prevention have been tested, which include but are not limited to: school-based interventions (Mason-Jones et al., 2016; Sani et al., 2016), interventions to increase antiretroviral therapy (ART) adherence (Kalichman, Cherry, Kalichman, et al., 2011), interventions to increase male participation in prevention of mother-to-child transmission (PMTCT) (Weiss et al., 2014) and to reduce HIV stigma in PMTCT (Peltzer et al., 2018), interventions that reduce the use of alcohol and other drugs (Carney et al., 2018; Parry, Carney, & Petersen Williams, 2017; Wechsberg et al., 2013), and interventions that link HIV-infected people to care, therefore opening room to initiate ART (Mavegam et al., 2017). These latter interventions showed that home-based HIV testing and counselling, together with a proper referral plan, aid considerably in reducing the time it takes to successfully start people on care protocols. When looking at school-based interventions, it is clear that these programmes are best placed to reach young people, who are currently among the highest-infected groups. The evidence however further suggests that school-based interventions only have a positive effect on condom use and not on STIs (Sani et al., 2016). Interventions which sought to reduce alcohol and drug use reported decreased incidents of engaging in sex while intoxicated and a reduction in the number of sexual partners (Carney et al., 2018; Wechsberg et al., 2013).

The current study used the theory of planned behaviour (TPB) as the guiding framework in determining the target points for a health behaviour intervention aimed at reducing risky sexual behaviours in young men from a highly vulnerable population. The theory of planned behaviour has been used to investigate a wide range of behaviours such as protective behaviours (supplement use, blood donation, sun protection), risk behaviours (alcohol use, illicit drug use, smoking cessation), and detection behaviours (cervical and breast cancer screening) (Conner & Norman, 2015). The theory of planned behaviour (for a recent re-formulation, see Fishbein and Ajzen (Fishbein & Ajzen, 2010)) posits that behavioural intention is determined by three evaluative constructs: attitude, subjective norm, and perceived behavioural control. Attitude represents a person's overall evaluation of the anticipated outcomes (favourable versus unfavourable) of the behaviour. Subjective norm is the perceived social pressure to engage or not engage in a behaviour. Perceived behavioural control is people's perceptions of their ability to perform a given behaviour (Ajzen, 1991).

The TPB has been able to explain varying proportions of the variance with different cognitive measures contributing differently for the given studies. In the most comprehensive meta-analysis of TPB interventions to date, covering 82 articles reporting on 123 interventions (Steinmetz et al., 2016), a few key things were noted: the effect sizes ranged between 0.14 and 0.68 in the cognitive constructs (attitude, subjective norm, perceived behavioural control, intention, behavioural, normative and control beliefs), for changes in behaviour the mean effect size

was 0.5. Furthermore, interventions conducted in public with groups were more effective than those conducted in private for individuals, and gender, education, and behavioural domain are moderators for intervention effectiveness.

The aim of this study was to evaluate the effectiveness of a behavioural intervention to reduce risky sexual behaviours of non-condom use, not testing for HIV, use of alcohol and drugs, engaging in sexual activities while intoxicated or with a partner who is intoxicated with alcohol or drugs, in a population of young men between the ages of 18 and 35 in the KwaZulu-Natal province. It was hypothesized that the intervention would lead to an increase in attitudes, subjective norms, and perceived behavioural control towards reducing those risky sexual practices, which in turn would lead to an increase in intentions towards reducing the risky sexual behaviours. Intention has been shown to be the proximal antecedent to behaviour (Fishbein et al., 2001). The behaviours themselves were not measured directly.

Materials and Methods

Study Areas

The study was conducted in both a peri-urban (study 1) and a rural area (study 2). The peri-urban area of Clermont is located in the KwaZulu Natal province, roughly 30 km from the eastern coast city of Durban. Clermont is a densely populated area, including approximately 31,600 households, with a majority Black African population. In South Africa, the official population group classifications are Black African, White, Asian/Indian, and Coloured. Black African is the population classification designated for the indigenous groups in South Africa. Only 32% of the residents were employed. Housing infrastructure is characterized by a mixture of free-standing dwellings, shacks, and hostels covering a small area of about 13 km^2 (Statistics South Africa, 2003). The shacks and hostels are indicative of the migration that is common in South Africa between rural and peri-urban areas. People usually come to the peri-urban centres like Clermont in search of employment opportunities, and usually end up living in informal settlements and migrate a few times a year between urban and rural homesteads (Kok et al., 2003).

The rural area of Nkungumathe in the KwaZulu-Natal province also has a majority Black African population. Nkungumathe is located approximately 250 km from Durban. The area had a minimal road infrastructure in 2010/2011 when the data were collected. The infrastructure in this area was characterized by sparsely located rural dwellings spanning a vast hilly topography. The majority of the housing structures were a combination of mud, thatch, brick, and stick and only a few houses were constructed of brick and tiles. Less than 10% of the residents were employed at the time of the survey.

Research Design

For study 1 in the peri-urban area, a randomized pre-test post-test control group design was applied. The eligibility criteria were age (18–35), they had to reside in the area under study, they had to be isiZulu speaking, and they had to be available for the follow-up study in 3 to 4 months after the pre-test. The participants were expected to attend a total of 4 or 6 visits to complete the study. At visit 1, all of the recruited participants who met the inclusion criteria were randomized into either control or experiment groups after completing the pre-test baseline questionnaire. At visit 2, all of the participants would start their first session. At visit 3, all of the participants attended their second session. At visit 4, the control group completed the post-test questionnaire while the experiment group attended their third session. At visit 5, the experiment group attended the fourth session. At visit 6, the experiment group completed the post-test questionnaire. A total of 428 participants were randomly assigned to either control or experimental groups. A total of 192 participants was assigned to the control group while 236 were assigned to the experimental group. In the follow-up measurement, 129 participants in the control and 182 participants in the experiment group took part.

For study 2 in the rural area, a pre-test post-test design without a control group was applied due to structural limitations of available research funding and participant accessibility. Therefore, an area of limited size of approximately 9 km^2 with a limited number of 178 households was selected for the study. This area was selected because the research team previously established contact with the community with the intention of a community development project. The participants were expected to attend a total of 6 visits to complete the study. At visit 1, the recruited participants who met the inclusion criteria completed the pre-test baseline questionnaire. At visit 2, the participants started with the first session. At visit 3, the participants attended their second session. At visit 4, the participants attended the third session. At visit 5, the participants attended the fourth session. At visit 6, participants completed the post-test questionnaire. A total of 147 participants met the eligibility criteria and took part in the baseline questionnaire. Only 128 participants were able to return for the follow up questionnaire. A preliminary participant censor-type survey had been conducted a few months before. This survey estimated that there were about 400 young men who could be eligible to participate in the study. Due to work and schooling commitments outside the area, the 400 eligible participants estimate was further reduced in terms of the total who could actually participate. This relatively low number of participants led to the decision to include all of the eligible participants in an experimental condition.

Intervention Curriculum and Control Curriculum

The curriculum was based on an intervention programme developed for soon-to-be-released prison inmates in South Africa (Sifunda et al., 2008, 2006) but was adapted for the communities targeted for study. The process of adaptation involved

preliminary qualitative interviews in the form of focus group discussions in each of the two study areas. These interviews were among community leaders in the respective areas, mothers and fathers, as well as young men. A community survey was also conducted in the rural area to gain a better understanding of the local context. The final product was an adapted intervention curriculum called Ubudoda Abukhulelwa Responsible Manhood: towards the Development of a Culturally Tailored and Contextually Sensitive Life Skills Programme for Heterosexual Men in South Africa.

Objectives of the intervention were firstly, to reduce risky sexual behaviours such as lack of condom use, non-testing for HIV, alcohol and drug use. Secondly, to encourage participants to avoid sex when personally intoxicated, and avoid sex with intoxicated people, and lastly, to encourage positive male supportive roles within relationships. The intervention included knowledge building and understanding, skills training, confidence building, and communication training and applied strategies of role playing, critical dialogue and reflection, and peer support. The intervention was delivered by peer educators to enhance learning and skills training. The intervention comprised of 4 sessions which were 3 hours long each and was administered over a 4-week period on the following themes:

1. Notions of masculinity, manhood, and responsibility
2. Personal and sexual relationships
3. General communication skills
4. Alcohol and other substance use

In each session, two hours were used for knowledge transfer, discussion, and dialogue, and one hour for skills training (see Appendix B). The aim of each session was to introduce the topic and have an in-depth discussion around the above-mentioned themes, using the probes in the learning objectives as a guide. The discussion was facilitated by two peer educators per session, taking turns to guide the discussion. The participants (8–12 per session) sat in a circle with the peer educators sitting in between them. The conclusion for each session was to teach a skill that would influence a behaviour change for the targeted area. For example, for the topic about condom use, the skills training would include a practical demonstration by the peer educators, using models, on how to correctly wear a condom. The participants would be given an opportunity to practice this skill on the models until they gained enough confidence to do it on their own without instruction. The confidence building communication sessions included a role play session where participants were given imaginary scenarios and asked to demonstrate how they would overcome them. Each participant would be given an opportunity to role play until they felt confident to initiate and execute on their own.

The men in the comparison condition (control) in the peri-urban study watched a 96-minute-long South African-made film called Yesterday (2004), directed by Darrell Roodt and starring Ms. Leleti Khumalo. The film, located in a rural village, chronicles the life of a Zulu mother who contracts HIV from her migrant miner husband. The story continues with how she copes with the diagnosis while raising her young daughter. The second session for the control group was an audio recording by a religious motivational speaker and relationship advisor. The talk was centred around positive male representation in the community.

Participants

The participants recruited for both studies were males between the ages of 18 and 35 who were isiZulu speaking. They had to reside in the study areas and had to be available for a follow-up at 3 to 4 months post-intervention. The research participants were recruited from community sites such as schools, churches, and community organizations. In both areas the recruitment drives were conducted to include a well-publicized initiative of talks about the study aims at community meetings, local churches, and sports tournaments organized specifically for this purpose. In the peri-urban area, the research team was also hosted at a local community radio station to answer any questions the community had about the study. These recruitment drives continued for nearly 12 months before commencing the studies. Participation in the study was on a voluntary basis to all participants who met the inclusion criteria and were able to come and take part during the times allocated. Researchers provided transport (where necessary) and also made provision for refreshments to the participants.

Training Peer Educators

A total of 6 peer educators (2 for rural and 4 for the peri-urban area) were recruited and trained to administer the curriculum. Additionally, 2 research managers also underwent the same training but were to play a supportive role to the research director (lead author). The strategic decision to recruit the research managers was informed by the consultative processes with the communities leading up to the study. It was agreed during the consultative process that if the research managers were older than the peer educators and had actively participated in community upliftment projects, the peer educators would be more motivated to do the work. The training process was also used as an opportunity to further adapt the intervention. These changes included terminology specific for the areas concerned. All peer educators and managers were recruited in the study areas and were fluent in isiZulu.

Study Instrument

Data for both the pre-test and post-test in both studies were collected through a facilitator-administered questionnaire. This questionnaire was adapted from a previous study among male prison inmates in the KwaZulu-Natal and Mpumalanga

provinces (Sifunda et al., 2008, 2006). This study questionnaire was divided into two sections, the first measured the demographic profile of the population in terms of age, level of education, level of income, and employment status, and the second section examined the psychosocial determinants of risky sexual behaviours and substance use, measuring attitudes, subjective norms, perceived behavioural control, and behavioural intentions based on the theory of planned behaviour (Ajzen, 1991).

The psychosocial determinants of 5 behaviours were measured: using a condom consistently, getting tested for HIV, reducing total alcohol and drug intake, avoiding sex when intoxicated, and avoiding sex with intoxicated people. The theory of planned behaviour variables for attitude, subjective norm, and intention were measured using a scale of 1 to 5 with answering options of: 1 = strongly disagree, 2 = disagree, 3 = unsure, 4 = agree, and 5 = strongly agree, while perceived behavioural control was measured using a scale of 1 to 5 with options of: 1 = very confident, 2 = confident, 3 = unsure, 4 = not confident, and 5 = not confident at all. Tables A1 and A2 (see appendix A) provide an overview of the psychosocial concepts that were measured, including the number of items, sample items, minimum and maximum score, mean, standard deviation, and Cronbach's Alpha (three or more items) as a measure of the internal consistency of grouped items. Note that subjective norm towards condom use was erroneously omitted from data collection and therefore not included in the analyses.

The questionnaire was developed in English and translated into isiZulu, then it was translated back into English to ensure construct and face validity. The research assistants, together with the project managers, who came from the same background as the research participants, were responsible for the translation process. The translations were all done in the form of a workshop with all the research assistants, project managers, and some of the co-authors in attendance. Consensus was reached for the correct use of language for all of the research tools.

Statistical Analysis

Statistical analysis was done using SPSS Version 24 (Statistical Product and Service Solutions, IBM, New York, NY, USA). For study 1, the peri-urban cohort, the first step of the analysis was a one-way analysis of variance (ANOVA) to test for differences in the means at baseline between the experimental and the control group. Then, in the next step, repeated measures analyses were conducted to determine if there was any change in the psychosocial measures scores over time (time ´ group interaction effect). For study 2, the rural cohort, pairwise samples t-tests were conducted to determine the difference between pre-test and post-test means of the respective variables. Alpha levels for statistical significance for these analyses in both studies were adjusted using the Bonferroni correction (0.05/19 variables = p £ 0.002). The Bonferroni correction is used to reduce the chances of obtaining type 1

errors when multiple pairwise tests are performed on a single set of data. It should be noted that there are arguments for (Mircioiu & Atkinson, 2017; Murray, 2013; Norman, 2010; Wadgave & Khairnar, 2016) and against (Jamieson, 2004) the use of parametric tests in the analysis of ordinal data, as collected for Likert Scales. Some of the rationale against the use of parametric tests for ordinal data is that the data is often not normally distributed. Although this may be true in certain instances, tests such as t-test and ANOVA depend on the normal distribution of means not data and it has been shown that for sample sizes greater than 10 the means approximate normal distribution, irrespective of the original distribution (Wadgave & Khairnar, 2016). Nevertheless, non-parametric tests were also performed, which yielded similar results.

Ethical clearance

The study received full ethical clearance from the South African Medical Association Research Ethics Committee (SAMAREC-Protocol MRC 1-09), which works according to the guidelines of the Helsinki Declaration on ethical aspects in human experimentation, and additionally, the research team also sought and received permission from the local municipal offices and the traditional leadership in the area concerned.

Results

Socio Demographic Profile

A total number of 575 participants completed the pre-test and 439 participants completed the post-test questionnaires in both studies combined. The majority of the participants were between the ages of 18 and 25, with 82.5% for the peri-urban pre-test, 86.4% for the peri-urban post-test, 97.1% for the rural pre-test, and 96.1% for the rural post-test. The level of education was from primary until tertiary, although only a small number reported having studied post-matric. The large majority of the participants were not employed (see Table 1).

Table 1. Socio-demographic profile of the participants. Study 1 Experiment (n = 236), Control (n = 192), and Study 2 (all Experiment) (n = 147).

Characteristic	Frequency					
	Study 1 (Peri-Urban)				Study 2 (Rural)	
	Pre-test: Control	Post-test: Control	Pre-test: Experiment	Post-Test: Experiment	Pre-test	Post-test
Age						
(18–20)	174 (90.6%)	105 (82%)	120 (51.3%)	97 (55.7%)	110 (78%)	90 (70.9%)
(21–25)	13 (6.8%)	15 (11.7%)	73 (31.2%)	44 (25.3%)	27 (19.1%)	32 (25.2%)
(26–30)	4 (2.1%)	5 (3.9%)	30 (12.8%)	23 (13.2%)	4 (2.8%)	4 (3.1%)
(31–35)	1 (0.5%)	3 (2.3%)	11(4.7%)	10 (5.7%)	0	1 (0.8%)
Levels of education						
Primary school	4 (2.4%)	1 (0.8%)	2 (0.9%)	0	1 (1.4%)	1 (0.8%)
High school	128 (77.1%)	70 (56.9%)	105 (45.4%)	50 (29.1%)	102(73.7%)	72 (57.6%)
Matric	25 (15.1%)	37 (30.1%)	89 (38.5%)	97 (56.4%)	29 (20.7%)	43 (34.4%)
Tertiary	9 (5.4%)	15 (12.2%)	35 (15.2%)	22 (12.8%)	6 (4.2%)	9 (7.2%)

Employment status						
Employed	5 (2.6%)	5 (3.9%)	12 (5.2%)	13 (7.3%)	5 (3.6%)	1 (0.8%)
Not employed	186 (97.4%)	122(96.1%)	220 (94.8%)	165 (92.7%)	135(96.4%)	126 (99.2)
HIV testing						
Previously tested for HIV	23 (12%)	33 (26.2%)	54 (22.9%)	69 (39.7%)	38 (25.9%)	72 (56.3%)
Previously not tested for HIV	168 (87.5%)	93 (73.8%)	161 (68.2%)	105 (60.3%)	96 (65.3%)	56 (43.8%)

Intervention Effects on Psychosocial Determinants

For study 1, Table 2 shows the mean scores at pre-test and post-test for the control and experimental groups. Table 3 shows the results of the one-way ANOVA's, comparing the mean scores of the peri-urban experimental and peri-urban control group on the outcome measures at baseline. The results show that for 4 out of 19 variables the control and experimental groups scored significantly different at baseline.

Table 2. Mean scores (M) and standard deviations (SD) for the two groups in Study 1, experiment (n = 236) and control (n = 192) at pre- and post-test.

Variable	Study 1—Control				Study 1—Experiment			
	Pre-test		Post-test		Pre-test		Post-test	
	M	SD	M	SD	M	SD	M	SD
Attitude towards condom use	4.54	0.61	4.35	1.06	4.47	.86	4.33	1.04
Perceived behavioural control towards condom use	4.31	0.78	4.28	1.02	4.44	0.81	4.33	0.97
Intention towards condom use	4.11	1.09	4.03	0.94	4.18	1.09	4.05	0.89
Attitude toward getting tested for HIV	4.56	0.70	4.31	1.09	4.53	0.75	4.35	0.94
Subjective norm toward getting tested for HIV	4.08	1.03	3.93	0.82	4.02	1.09	3.88	0.87
Perceived behavioural control toward getting tested for HIV	4.45	0.76	4.15	1.08	4.33	0.78	4.28	0.99
Intention toward getting tested for HIV	4.18	0.99	3.93	0.92	3.93	1.15	3.92	0.91
Attitude towards reducing alcohol and drug use	4.39	0.92	4.19	1.12	4.39	0.92	4.29	1.00
Subjective norm towards reducing alcohol and drug use	3.87	0.99	3.89	0.89	3.81	1.01	3.70	0.89
Perceived behavioural control towards reducing alcohol and drug use	4.30	0.80	4.04	1.12	4.26	0.83	4.13	1.08
Intention towards reducing alcohol and drug use	4.32	0.86	3.98	0.89	4.00	1.10	3.96	0.93
Attitude towards avoiding sex when you are intoxicated	4.36	1.00	4.26	1.07	3.95	1.26	4.21	1.13
Subjective norm towards avoiding sex when you are intoxicated	4.02	0.93	3.85	0.99	3.76	1.06	3.73	0.91
Perceived behavioural control towards avoiding sex when you are intoxicated	4.02	0.74	4.00	1.02	3.90	0.85	4.04	0.96
Intention towards avoiding sex when you are intoxicated	4.24	0.90	3.94	0.94	4.00	1.10	3.95	0.99
Attitude towards avoiding sex with intoxicated people	4.03	1.36	4.08	1.25	3.64	1.49	4.19	1.16
Subjective norm towards avoiding sex with intoxicated people	3.90	1.05	3.75	0.99	3.51	1.23	3.69	0.91
Perceived behavioural control towards avoiding sex with intoxicated people	4.22	0.82	4.27	1.06	4.03	1.01	4.17	1.18
Intention towards avoiding sex with intoxicated people	4.20	1.03	3.97	1.00	3.88	1.22	4.03	0.89

Table 3. Bivariate results of Study 1 experiment and control means at baseline.

Variables	Source	df	Sum of Squares	Mean Square	F	*p*
Attitude towards condom use	Between groups	1	0.752	0.752	1.290	0.257
	Within groups	424	247.125	0.583		
	Total	425	247.877			
Perceived behavioural control towards condom use	Between groups	1	0.252	0.252	0.406	0.525
	Within groups	422	261.999	0.621		
	Total	423	262.251			
Intention towards condom use	Between groups	1	0.390	0.390	0.325	0.569
	Within groups	426	511.865	1.202		
	Total	427	512.255			
Attitude toward getting tested for HIV	Between groups	1	1.067	1.067	2.063	0.152
	Within groups	422	218.200	0.517		
	Total	423	219.266			
Subjective norm toward getting tested for HIV	Between groups	1	0.765	0.765	0.662	0.416
	Within groups	426	492.831	1.157		
	Total	427	493.596			
Perceived behavioural control toward getting tested for HIV	Between groups	1	3.373	3.373	5.666	0.018
	Within groups	423	251.816	0.595		
	Total	424	255.189			
Intention toward getting tested for HIV	Between groups	1	9.202	9.202	7.779	0.006
	Within groups	425	502.757	1.183		
	Total	426	511.959			
Attitude towards reducing alcohol and drug use	Between groups	1	0.071	0.071	0.085	0.770
	Within groups	422	351.797	0.834		
	Total	423	351.868			
Subjective norm towards reducing alcohol and drug use	Between groups	1	1.643	1.643	1.566	0.211
	Within groups	425	445.762	1.049		
	Total	426	447.404			
Perceived behavioural control towards reducing alcohol and drug use	Between groups	1	.887	0.887	1.334	0.249
	Within groups	421	279.837	0.665		
	Total	422	280.724			
Intention towards reducing alcohol and drug use	Between groups	1	9.886	9.886	9.936	0.002**
	Within groups	426	423.847	0.995		
	Total	427	433.733			
Attitude towards avoiding sex when you are intoxicated	Between groups	1	15.657	15.657	12.166	0.001**
	Within groups	423	544.367	1.287		
	Total	424	560.024			
Subjective norm towards avoiding sex when you are intoxicated	Between groups	1	4.602	4.602	4.426	0.036
	Within groups	426	442.975	1.040		
	Total	427	447.577			

Perceived behavioural control towards avoiding sex when you are intoxicated	Between groups	1	2.655	2.655	4.007	0.046
	Within groups	425	281.637	0.663		
	Total	426	284.292			
Intention towards avoiding sex when you are intoxicated	Between groups	1	4.340	4.340	3.977	0.047
	Within groups	425	463.831	1.091		
	Total	426	468.171			
Attitude towards avoiding sex with intoxicated people	Between groups	1	16.881	16.881	8.996	0.003
	Within groups	423	793.734	1.876		
	Total	424	810.615			
Subjective norm towards avoiding sex with intoxicated people	Between groups	1	14.134	14.134	10.846	0.001**
	Within groups	425	553.832	1.303		
	Total	426	567.966			
Perceived behavioural control towards avoiding sex with intoxicated people	Between groups	1	3.834	3.834	4.421	0.036
	Within groups	425	368.610	0.867		
	Total	426	372.445			
Intention towards avoiding sex with intoxicated people	Between groups	1	12.057	12.057	9.554	0.002**
	Within groups	426	537.566	1.262		
	Total	427	549.623			

** Significant $p \leq 0.002$ after Bonferroni correction.

Table 4 reports on the repeated measures ANOVA that was conducted to compare the effect of the behavioural intervention over time in the peri-urban setting. After correction for multiple testing there were no significant time x group interactions for the variables tested.

Table 4. Repeated Measures Within-Subject Effect, Greenhouse–Geisser (time*group), Study 1 experiment vs control.

Variable	df hypothesis	df error	Mean Square	F	*p*	Partial Eta Squared
Attitude towards condom use	1	299	0.074	0.087	0.768	0.000
Perceived behavioural control towards condom use	1	298	0.269	0.354	0.552	0.001
Intention towards condom use	1	299	0.110	0.125	0.724	0.001
Attitude towards getting tested for HIV	1	295	0.166	0.208	0.649	0.001
Subjective norm towards getting tested for HIV	1	298	0.010	0.013	0.909	0.000
Perceived behavioural control towards getting tested for HIV	1	296	2.273	2.752	0.098	0.009
Intention towards getting tested for HIV	1	298	2.006	2.230	0.136	0.007
Attitude towards reducing alcohol and drug use	1	295	0.402	0.406	0.525	0.001
Subjective norm towards reducing alcohol and drug use	1	297	0.527	0.621	0.431	0.002
Perceived behavioural control towards reducing alcohol and drug use	1	295	0.604	0.675	0.412	0.002
Intention towards reducing alcohol and drug use	1	299	2.963	3.431	0.065	0.011
Attitude towards avoiding sex when you are intoxicated	1	298	4.505	3.402	0.066	0.011
Subjective norm towards avoiding sex when you are intoxicated	1	297	0.714	0.783	0.377	0.003
Perceived behavioural control towards avoiding sex when you are intoxicated	1	296	1.025	1.212	0.272	0.004
Intention towards avoiding sex when you are intoxicated	1	298	2.521	2.658	0.104	0.009
Attitude towards avoiding sex with intoxicated people	1	292	9.189	5.031	0.026	0.017
Subjective norm towards avoiding sex with intoxicated people	1	295	4.017	3.699	0.055	0.012
Perceived behavioural control towards avoiding sex with intoxicated people	1	290	0.437	0.847	0.358	0.002
Intention towards avoiding sex with intoxicated people	1	298	5.051	5.432	0.020	0.018

For study 2, Table 5 shows the pairwise comparisons, testing the difference between the pre-test scores and post-test scores on the outcome measures. Only one significant difference was shown between baseline and post-test for attitude towards avoiding sex when one is intoxicated, suggesting that there was not much of an effect over time with exposure to the intervention in between.

Table 5. Paired samples T-tests showing pre-test versus post-test scores on the variables for the study 2 cohort.

Variable pair	Mean (SD) Pre-test	Mean (SD) Post-test	df	t	*p*
Attitude towards condom use	4.238 (0.885)	4.266 (0.960)	108	−0.218	0.828
Perceived behavioural control towards condom use	4.328 (0.924)	4.200 (0.972)	110	1.008	0.316
Intention towards condom use	3.892 (1.200)	4.031 (0.908)	110	−0.954	0.342
Attitude towards getting tested for HIV	4.268 (0.959)	4.302 (0.951)	108	−0.273	0.785
Subjective norm towards getting tested for HIV	3.727 (1.107)	3.816 (0.862)	109	−0.687	0.494
Perceived behavioural control towards getting tested for HIV	4.297(0.948)	4.238 (0.981)	109	0.448	0.655
Intention towards getting tested for HIV	3.937 (1.146)	3.890 (0.946)	110	0.317	0.752
Attitude towards reducing alcohol and drug use	4.159 (1.028)	4.247 (0.980)	109	−0.622	0.535
Subjective norm towards reducing alcohol and drug use	3.574 (1.096)	3.592 (0.964)	109	−0.127	0.899
Perceived behavioural control towards reducing alcohol and drug use	4.065 (1.018)	3.927 (1.149)	109	0.953	0.343
Intention towards reducing alcohol and drug use	3.765 (1.270)	3.820 (0.907)	108	−0.343	0.732
Attitude towards avoiding sex when intoxicated	3.448 (1.385)	4.043 (1.134)	108	−3.371	0.001 **
Subjective norm towards avoiding sex when intoxicated	3.355 (1.143)	3.563 (0.992)	110	−1.448	0.150
Perceived behavioural control towards avoiding sex when intoxicated	3.601 (1.001)	3.966 (0.947)	110	−2.878	0.005
Intention towards avoiding sex when intoxicated	3.907 (1.206)	3.829 (0.949)	108	0.504	0.615
Attitude towards avoiding sex with intoxicated people	3.453 (1.487)	3.979 (1.252)	108	−2.783	0.006
Subjective norm towards avoiding sex with intoxicated people	3.438 (1.180)	3.529 (1.023)	109	−0.598	0.551
Perceived behavioural control towards avoiding sex with intoxicated people	3.876 (1.040)	3.957 (1.293)	110	−0.870	0.385
Intention towards avoiding sex with intoxicated people	3.810 (1.211)	3.913 (1.053)	110	−0.658	0.512

**Significant $p \leq 0.002$ after Bonferroni correction.

Discussion

The objectives of this study were to test the effectiveness of a behavioural intervention developed to target risky sexual behaviours of lack of correct or consistent condom use, not getting tested for HIV, alcohol and drug use, sexual intercourse when one is intoxicated, and lastly, sexual intercourse with intoxicated people. The intervention was not designed to target the behaviours directly, but to work through effecting change in the psychosocial determinants of attitude, subjective norm, and perceived behavioural control, which would then lead to stronger intention to use condoms, stronger intention to get tested for HIV, stronger intention to reduce alcohol and drug use, stronger intention to avoid sex when one is intoxicated, and stronger intention to avoid sex with intoxicated people. Strong intention towards the target behaviour is likely to yield the desired positive change in that behaviour (Webb & Sheeran, 2006). Overall, the outcomes of the current intervention show a very minimal effect on the psychosocial determinants tested.

The results for study 1 among males in a peri-urban area showed a significant difference in 4/19 variables at baseline when comparing control and intervention mean scores. The two groups were quite similar at baseline. It was expected that selection biases would be eliminated at randomization and that there would not be any significant differences at baseline. At post-test, after the participants had gone through the experiment and control conditions, there was no statistical support for the predicted intervention. Given the very positive feedback received from the participants, especially after the condom use and substance use sessions, we had expected a positive increase in the intention to use condoms or intention to reduce alcohol and drug use. There was no effect in either of these measures. This may have been due to the sessions on condom use and alcohol and drug use not being long or detailed enough or skills building components may not have been adequate. Also, social support for condom use may have been lacking as participants had mentioned that some of the nursing staff at public health facilities were at times very unfriendly, which may have negatively affected intention to use a condom. The participants had mentioned that some of the negative comments by the staff regarding the participants' sexual activities in relation to accessing condoms had discouraged the participants from going back to the clinics.

The results for study 2 among males in the rural area who participated in the intervention showed a significant increase in attitude towards avoiding sex when one is intoxicated. We would expect that this finding would have been complimented by a similar increase in the measures associated with the reduction of alcohol and drug use, but this was not the case. Additionally, there was also no effect observed in the measures associated with condom use, with getting tested for HIV, and with avoiding sex with intoxicated people. One of the reasons for this intervention not having the desired positive effects, for getting tested for HIV for example, could be due to the fact that the intervention did not have modules designed specifically for strengthening self-efficacy to get tested or to overcome the stigma surrounding HIV testing and the negative attitudes of health care staff. The participants had mentioned levels of distrust they had towards health care staff, saying that they do not trust staff to keep their HIV status confidential within their respective communities. A possible explanation for the lack of impact of the intervention on intention to reduce risky sexual behaviours and alcohol and drug use may also be that the intervention was still too focused on information provision and not enough on increasing self-efficacy and skills of young people to not perform or to reduce these risky behaviours. Strengthening self-efficacy has been shown to have favourable results on positive performance (Jacobsen & Andersen, 2017).

This study targeted young men aged 18–35 for the intervention. The most recent HIV national survey reports that in South Africa, condom use increased for the 25–49 year olds but remained the same for the 15–24 years (Human Sciences Research Council, 2018) and the majority of participants in the current study were between

18 and 25 years. To be more effective, follow-up research on this intervention may have to consider including people at a younger age, when risky sexual behaviours and addictions to alcohol and other substances are initiated and established. There is evidence that already suggests that young people are engaging more in alcohol abuse and risky sexual behaviours (Reddy et al., 2013b). The current intervention could then be more effective if it was further adapted and included into programmes for secondary school learners. Recent research shows that using TPB can be used in planning HIV prevention programmes for young people in South Africa (Visser, 2017). Additionally, using a systematic planning framework with well-designed protocols, like Intervention Mapping, can assist the success of the intervention (Bartholomew, Markham, Ruiter, Fernández, Kok, & Parcel, 2016). .

The current intervention is characterized by sessions that included communications training, skills training, confidence building, role playing, critical dialogue, critical reflection, and peer support. It draws from the thinking that education through dialogue and participation empowers the recipients to question the current state of reality, making them more amenable to an alternative viewpoint (Freire, 1968). This was particularly evident during the curriculum sessions of the present study, with participants consistently expressing that prior to the introduction of this study they had no outlet for them to discuss these topics with their peers. This excitement may have also contributed to the contamination of the intervention being widely discussed in the community, thereby allowing participants from the control group to know about the topics discussed in the intervention group.

For comparative purposes, there are not many studies that utilized this approach in developing health interventions, or specifically, those studies targeting attitudes, social norms, and perceived control with the aim to influence intention towards targeted behaviours. The prison study from which the current study was adapted sought to reduce risky sexual behaviours through peer-facilitated discussions and skills training among soon-to-be-released prison inmates. The prison study, similar to the current study, targeted the determinants of intention that would in turn influence behaviour. It was found that inmates from the experimental group had higher knowledge of STI's, stronger intention to reduce risky sexual behaviours, and generally more positive self-efficacy and sexual communication (Sifunda et al., 2008). The prison study had two post-test assessments and the longer-term assessment confirmed that indeed there had been a positive behaviour change. Introducing two post-test assessments could perhaps also be explored in future development of the current intervention.

Another limitation of this study is that the rural cohort did not have a control arm, therefore making it difficult to make direct comparisons with the peri-urban cohort. These comparisons might have shed more light on why only one variable was positively affected. Additionally, if the study had observed or measured the risky

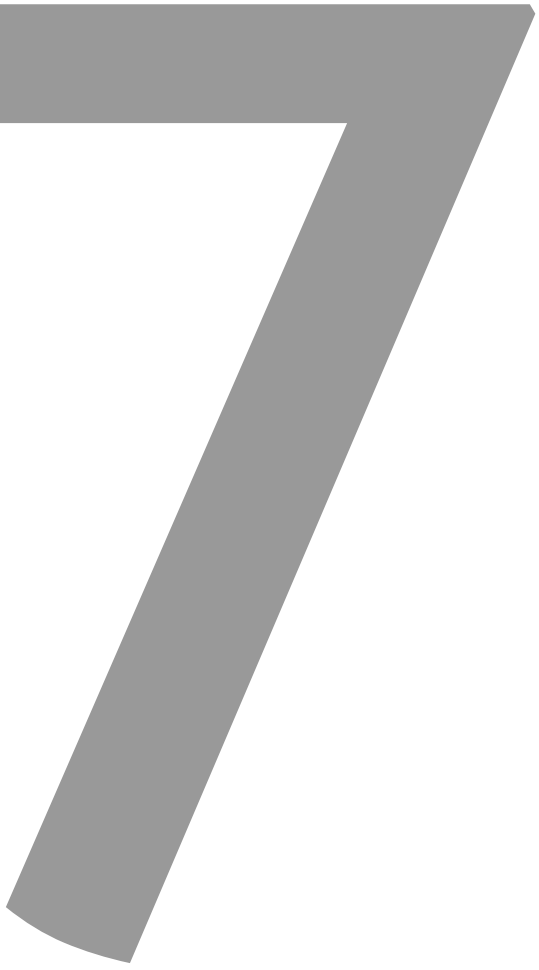
behaviours directly, it might have also helped to observe if the risky behaviours had already started to change and whether possible changes were affected by the changes in the proximal cognitive determinants. With regards to contamination, there may have been several possible avenues where this happened. First, the participants completed the questionnaires in a hall-sized room with peer educators present to assist where needed. There may also have been contamination with some participants speaking or checking one another's responses, even though the research team was cautious to discourage that during the completion of the questionnaires. Secondly, the peer educators who administered the intervention curriculum and those who administered the control curriculum were trained together, it is possible that during the debriefing discussion after administering the control curriculum, the peer educators in the control conditions may have inadvertently introduced intervention-related opinions to the discussions. The reason the research team trained them together was so that all of them would be equipped to replace others should they report sick or be unable to attend their own assigned sessions. Lastly, the participants in the control group and those in the experiment group could have interacted socially in the community over the period of the intervention curriculum. Another important limitation is that our data was self-reported. Self-reported results are prone to social desirability biases. In future, more stringent randomization processes should be used to eliminate selection biases and to strengthen the capacity to make causal inferences on the results.

There was also a considerable number of participants who were lost to follow-up, particularly in study 1. The main reason for a substantial loss was that a number of participants who had been in their final year of high school had relocated in the following year for further studies away from the study area and therefore could not be followed up. Additionally, communication with the participants for reminders about sessions was primarily through their mobile phones and reminders were communicated at least 3 times before the session dates. Despite these efforts, there were still challenges whereby some participants were not reachable at times. Furthermore, since most of the participants were unemployed, the transport that the team had provided was the sole means for them to get to the venue where the sessions were held. Some of the participants reported a loss of interest in the intervention and thus were not willing to participate further. Successful retention of participants needs careful attention in the design of future intervention studies.

Conclusions

Overall, the intervention had some success, particularly at increasing young men's attitudes towards avoiding sex when intoxicated. However, no effects were achieved in terms of increasing intentions associated with the other behaviours of condom use, HIV testing, reducing alcohol and drug use, and avoiding sex with intoxicated people. Further development and testing of this programme is recommended before it can be considered for broader scale implementation.

CHAPTER 7



General Discussion

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HIV continues to be one of the biggest public health challenges in South Africa. There was a decline in new infections according to the 2017 South African national HIV survey compared to the previous survey of 2012. This decline is partly attributable to the large number of infected people who have now been placed on antiretroviral therapy therefore more infected people are now virally suppressed (Human Sciences Research Council, 2018). Although this has made an impact in curbing the epidemic, just over a third of new infections is seen among the young people with women showing more new infections than men (Human Sciences Research Council, 2018). It appears that men could be responsible for driving the epidemic, which is why there is a need to develop interventions focusing on combating risky behaviours particularly among men. The objectives of this dissertation were to first understand the psychosocial determinants of risky sexual behaviours among young men and then to test a health behaviour intervention attempting to reduce these risky sexual behaviours. The intervention was designed to positively influence the social-cognitive variables of attitudes, subjective norms and perceived behavioural control and these would ultimately have a positive influence on intention. Intention would then have a positive influence on the respective risky sexual behaviours targeted. This chapter discusses the main empirical findings of this thesis, puts them into perspective and make recommendations for future research.

Evidence points towards men being the drivers of the epidemic and this is seen in a number of ways. Not all people living with HIV are aware of their status, even more so for men who are reported to test far less than women do. Condom usage is also reported to be low and men are engaging in sex at an even younger age, whereas older men are seen to be engaging in sexual relationships with younger women and adolescent girls (Evans et al., 2017). These older men have been found to be less aware of their HIV status. As much as it seems that men are the drivers of this epidemic, there are a number of historical and contextual circumstances that have to be considered that place men in this position. One example is the fact that indigenous African people through legislation by the Apartheid government were forced to settle in designated rural enclaves far away from urban centres where more employment opportunities were. This resulted in a migrant labour system that still exists until today. Initially it was the men who commuted to the mines and factories in search of work, leaving families behind for extended periods in the year. This extended separation created a situation where families were broken apart and created new relational dynamics of how men and women conducted romantic and sexual relationships with the men acquiring new sexual partners in the cities resulting in multiple sexual partnerships. These historical legacies linger on to the present day and have influences to the psychosocial determinants of health and health seeking behaviour.

Chapter 2 describes the perspectives of young men on love, forming relationships and sexual relationships against the backdrop of notions of masculinity. Findings from this study provided insights into how men view romantic relationships in their respective communities. Both the rural and peri-urban perspectives inform us about aspects of sexual context not previously reported. The phenomena of relationship try-outs and perceptions of 'feeling under pressure' show how young men justify their reckless behaviours. What the interviews show is that these men remove all personal agency and seem to blame their reckless behaviours on the women. The men attribute their behaviours to the women being too sexy, to feelings of insecurity they have as men in these relationships, to cultural beliefs associated with causing a woman bad luck if you end relationships with them. It has been reported previously that feelings of insecurity had led men to have more than one sexual partner (Onoya et al., 2015). These findings indicate how crucial it is to further investigate the psychosocial determinants of sexual context. The prevailing narrative is that people everywhere meet and form romantic relationships for the same reasons. As much as the overarching reasons of the desire to be understood, respected and supported by their partner are the same (Smith et al., 2013), there seems to be culturally nuanced reasons that need more inquiry. The inability by the men in this study to end relationships is one prime example of how culture impacts heavily on health outcomes. Not being able to end relationships leaves men with multiple partners some of whom they are sexually involved with. This behaviour has implications for HIV transmission rates. More research is needed to explore perspectives of romantic relationships across a broader and more representative population. The focus group discussions in chapter 2 were therefore used to gain insight into how the notions of manhood influence sexual relationships and also used to adapt the behavioural intervention.

Chapters 3, 4 and 5 describe the assessment of the psychosocial measures associated with risky sexual behaviours of engaging in sex when personally intoxicated, engaging in sex with intoxicated people, non-use of male condoms, and getting tested for HIV. All three studies found that subjective norms and perceived behavioural control are the proximal psychosocial measures contributing the most to the variance in intention. Additionally, the variables associated with reducing alcohol and drug intake explain a further 7 – 20 % of the variance in intention when looking across all three studies. The young men seem to be very receptive to the opinions of the people they hold in high regard in their respective communities. This susceptibility to influences by people who occupy important positions in their lives can be attributed to a number of reasons. The communal nature of how children are brought up in African societies whereby extended family members often reside in the same household. Added to this is the communal nature of gender roles where the men are designated certain roles and responsibilities. This is more apparent at family gatherings when animals are slaughtered for ceremonial celebrations, the boys are expected to assist the men and the girls help the women in their respective

household chores. It is here at such occasions and others that boys get to emulate the men in their lives, be it their fathers or extended uncles from the father's or mother's sides of the family.

Previous studies using the theory of planned behaviour to examine risky sexual behaviours in the South African population showed subjective norm as the variable contributing the most to variance in intention to use condoms (Boer & Mashamba, 2005, 2007; Giles et al., 2005). Interestingly, there seemed to be a gender dynamic as to which socio-cognitive construct contributes the most to the variance in intention towards condom use. It was shown that attitude and subjective norm towards condom use are the significant contributors to the variance in intention towards condom use for men while it was attitude and self-efficacy for women (Boer & Mashamba, 2007). The recent meta-analysis reporting on the theory of planned behaviours and alcohol consumption however reports that attitude is the strongest predictor of intentions to drink alcohol (Cooke et al., 2016). This is also supported by the later studies which report that the most influential predictors in the intention to consume alcohol are attitude and perceived behavioural control (Haydon, Obst, & Lewis, 2018). Studies examining the intention to test for HIV show that attitude and perceived behavioural control are the significant contributors to variance in intention to test in one context (Kakoko et al., 2006; Olabode, 2017) and other studies show subjective norm to be the significant contributor in another context (Abamecha et al., 2013). What all these studies using the theory of planned behaviour show is the applicability of the theory to predict health behaviour in a wide array of contexts. Most importantly though, these studies show that the predictive capabilities of the theory vary in terms of which socio-cognitive variables are significant predictors of intention for a given behaviour. This is true for global studies and those in the African context.

Looking more broadly at the determinants of risky sexual behaviours of non-condom use, of engaging in sex when intoxicated or when partner is intoxicated and HIV testing, it is clear that there is an interplay between interpersonal, community and institutional factors of influence. The present study reports on some of the structural and institutional barriers to accessing health care where the participants talk about the negative attitudes and comments often made by health care staff at public clinics. The participants also mention how they are rebuked and made fun of by community members when they accompany girlfriends to health facility in an attempt to play more supportive roles to their partners (Chapter 2). Interventions will therefore need to be cognizant of all levels of influence as depicted in the socio-ecological model (Chapter 1) when designing health behaviour interventions. The model is depicted by concentric circles showing different levels with intrapersonal level at the centre, followed by interpersonal, institutional, community and policy level in the outer ring.

The findings of this study have also highlighted that multiple sexual partnerships (MCP) are another risky sexual behaviour that should be examined more closely. Chapters 3 and 4 report that at least 73% of the sexually active young men who participated in this study identified as being involved in multiple sexual partnerships. This practice of multiple sexual partnerships was also confirmed in the focus group discussions in Chapter 2 whereby the young men alluded to the ubiquitous nature of having more than one partner. MCP has been shown to contribute to the spread of HIV in previous studies (Kenyon, Tsoumanis, Schwartz, & Maughan-Brown, 2016). The predictors of MCP include never having tested for HIV, high HIV risk perception and harmful alcohol use among men but among women the motivators for MCP include high peer pressure and lower education (Mlambo et al., 2018). In the present study what comes out clearly is how the young men speak about MCP as if it is normal and accepted within their respective communities or at least among their peers. Previous studies have shown how social norms have a positive and significant association with multiple concurrent partnerships (Tibesigwa & Visser, 2015). MCP is also influenced by alcohol consumption and by never having tested for HIV suggesting that the risky sexual behaviours should not be examined in isolation but researchers should adopt a more critical viewpoint focused at how these behaviours influence each other. Another example is seen in how people who have multiple sexual partners are more likely to use condoms, but they also have a greater number of lifetime sexual partners, and are more likely to have an earlier age of sexual debut (Heeren et al., 2014; Mlambo et al., 2018; Onoya et al., 2015).

Testing the behavioural intervention

The second part of the dissertation sought to evaluate the effectiveness of a health behavioural intervention aimed at reducing risky sexual behaviours of non-condom use, not testing for HIV, use of alcohol and drugs, engaging in sexual activities while intoxicated or with a partner who is intoxicated with alcohol or drugs. The behavioural intervention was tested in two areas in KwaZulu-Natal province using a randomized pre-test post-test control group design for study 1 (peri-urban) and a pre-test post-test design without a control group for study 2 (rural). The intervention included discussions and skills training on (1) notions of masculinity, manhood and responsibility, (2) personal and sexual relationships, (3) general communication skills, and (4) alcohol and other substance use. Measures of attitude, subjective norm, perceived behavioural control and intention for condom use, HIV testing, reduction of alcohol and drug use, avoiding sex while intoxicated, and avoiding sex with intoxicated people were assessed using facilitator administered questionnaire. The results for study 1 show that 4 of 19 variables scored significantly different at baseline and all 19 variables showed no significant changes between pre-test and post-test. For study 2, one significant difference was found for attitude towards avoiding sex when one is intoxicated. Overall the intervention had minimal success with just one area of positive effect.

Even though the intervention had minimal effect, when we consider the baseline results seen in Chapters 3, 4 and 5 wherein together with subjective norm, perceived behavioural control also contributed significantly to the variance in intention. It is evident that these same young men also had strong perceptions of behavioural control in their own abilities to change their respective behaviours (condom use, testing for HIV, reducing overall alcohol intake, avoiding sex when one is intoxicated and avoiding sex with intoxicated people). It is possible that the participants could have overestimated their own capabilities. The significant contribution of perceived behavioural control towards intentions for these behaviours gives direction as to what future studies should target. This evidence suggests that future interventions may have better success if their modules speak directly to enhancing self-efficacy towards the respective behaviour. These suggested interventions would have to give men the impression of being less in control, so as to compensate for possible overestimations, but equip them with the necessary skills to be in control. Strengthening self-efficacy has been shown to have favourable results on positive performance (Jacobsen & Andersen, 2017).

The method of delivery for the curriculum training needs to be emphasized. The behavioural intervention used communications training, skills training, confidence building, role playing, critical dialogue, critical reflection, and peer support to deliver lessons in a predefined structure. This was intended to give the participants a sense of shared comradery with their peers. The positive outcome for this method of delivery was mentioned constantly by participants during the study and afterwards as they had no other forums available to them to interact in this manner. The participants got to have first-hand exposure that some of the problems they had been dealing with were not unique to themselves but shared with some of their peers. It is this shared sense of comradery that may have contributed to heightened interest in the study and reduced loss to follow up. There are not many studies that utilized this approach in developing health interventions, or specifically, those studies targeting attitudes, social norms, and perceived control with the aim to influence intention towards targeted behaviours. Moreover, an approach that is sensitive to the historical and socio-cultural context relevant to the participants. Future studies should pay careful attention to incorporate similar approaches since they are shown to have a positive outcome (Williams, Ramamurthi, Manago, & Harawa, 2009).

The prison study from which the current intervention was adapted sought to reduce risky sexual behaviours through peer-facilitated discussions and skills training among soon-to-be-released prison inmates. The prison study, similar to the current study, targeted the determinants of intention that would in turn influence behaviour. It was found that inmates from the experimental group had higher knowledge of STI's, stronger intention to reduce risky sexual behaviours, and generally more positive self-efficacy and sexual communication (Sifunda et al., 2008). The prison study had

two post-test assessments and the longer-term assessment confirmed that indeed there had been a positive behaviour change. Introducing two post-test assessments could perhaps also be explored in future development of the current intervention.

Reflection on the methodology

This dissertation is about the adaptation and development of a health behavioural intervention aimed at reducing risky sexual behaviours. The current intervention is adapted from an intervention previously tested among soon to be released prison inmates. The prison intervention had been culturally tailored for the population groups in that study. The current intervention was similarly adapted to be suitable for a non-prison community of young men. Several meetings were held with the communities identified for study with the aim of gaining entry. Once the necessary permissions were granted by the local leadership, the research team began to conduct focus group interviews whose objective was to understand the communities better. The needs of the community had been expressed in the interviews involving traditional community leaders who were mostly male as well as mothers and daughters so as to get an overall picture of what to address in the intervention. This new understanding was used as a basis for adapting the intervention curriculum, making it suitable and tailor made for the populations under study. The notions of masculinity and male responsibility, how to conduct oneself in personal and sexual relationships, positive communication methods within relationships and alcohol and drug use were the topics that were decided on for the intervention curriculum. The strength of this dissertation is that it incorporated both qualitative and quantitative data in the analysis. Being able to triangulate the two data collection methods helped to improve on the validity of the results. For the qualitative (Chapter 2) part of the data collection, measures were taken to ensure that there was validity and reliability of the results. The sampling comprised of groups of 8 to 12 men at a time. The data collection was done using a predetermined interview guide to ensure consistency. The coding in preparation for data analysis was conducted independently by three members of the research team in order to maximize reliability. Using a process of comparative analysis, the relationships among the primary codes were integrated and condensed to form the final emergent themes. The qualitative study could have benefitted from conducting in depth interviews with a few identified participants to strengthen and corroborate the data collected particularly since a small number (4) of focus group discussion was conducted. For the quantitative research the current study took notice of the compatibility principle (Ajzen, 2015; Ajzen & Fishbein, 2005; Fishbein & Ajzen, 1975) and therefore ensured that the measures for the socio-cognitive variables of attitude, subjective norm and perceived behavioural control were specific to the intention in question. The behaviours were not measured directly therefore it was not possible to test if there was a high correlation between attitude and behaviour, but using this compatibility principle still allowed for a greater reliability for the measures concerned.

The weakness of this dissertation was mainly in the experimental design used in the intervention study. The experimental design in the rural arm was a pre-test post-test design without a control. This made it difficult to make direct comparisons with the peri-urban arm. The structural limitations in the rural setting with large areas of less developed terrain with sparse population made it impossible to achieve the experimental design that we had hoped for. The other methodological limitation includes the randomization between control and experimental groups. This process was inadvertently biased due to the limited number of eligible young men in the area whereby the experiment enrolment was higher than control.

Another weakness of this dissertation was the lack of significant contribution by the concept of responsible manhood. A potential reason why the three studies (chapters 3, 4 and 5) were unable to show any strong association with the responsible manhood constructs may be due to the poor operationalisation of the variables making them unable to thoroughly test what had been intended. The construction could have emphasised mainly on linking responsible manhood to ethnic identity. Previous research shows how the responsible manhood concept was positively affiliated to ethnic identity and how in turn ethnic identity was shown to have a positive association with safer sexual practices (Nyembezi, Resnicow, et al., 2012). More research is needed to explore these culturally contextual concepts of responsible manhood and ethnic identity.

Recommendations

Future research should focus on careful designing of theory-based interventions. The systematic approach of using Intervention Mapping (IM) should be strongly considered. IM is a protocol for developing theory and evidence-based behaviour change interventions. There are six steps, where each is made up of tasks that incorporate theory and evidence. The completion of each step serves as a guide for the subsequent step, whereby when all the steps are completed the result is a blueprint for designing, implementing and evaluating an intervention based on a foundation of theoretical, empirical, and practical information (Bartholomew, Markham, Ruiter, Fernández, Kok, & Parcel, 2016).

Although basic principles of Intervention Mapping were followed in the adaptation of an existing intervention into the present study, more could have been done. Particular emphasis could have been made to incorporate IM Adapt (Bartholomew, et al., 2016; Highfield et al., 2015). In chapter 10, Bartholomew and colleagues (2016) describe how IM Adapt uses the principles of IM to adapt evidence-based interventions to include effectiveness and process evaluations in order to systematically adapt them for the community under study while detailing throughout what is the same and what is different between original and adapted interventions. In this study, community involvement was sought right from the beginning where

the research team held meetings with the leadership structures in order to enter the respective communities and establish a needs assessment. The next set of meetings were in preparation to eventually conduct focus group discussions, which were instrumental in adapting the curriculum to the target problems identified. In order to implement this intervention on a broader scale, further development and testing is recommended. Particular focus should be placed on developing the study tools following on the IM steps in more detail. The details of IM that could have been applied in this study are twofold (STEP 1, 2, 3 and 4 of IM): The research team could have benefited more from having had members of the communities be part of the planning groups. This would have strengthened the development of the objectives.

Step 2 of IM would have assisted to create a matrix of the change objectives and Step 3 would have assisted to identify the theoretical methods. Intervention Mapping also encourages the use of more than one theory. Integrating a multi-theory approach would have assisted in selecting the correct theory to assist with the behaviour change curriculum since the theory of planned behaviour is only instrumental in identifying the target for behaviour change and does not explain how to change behaviour. IM is instrumental in suggesting a link between theories of the problem and theories of the action. Once the target for change was identified using TPB, social cognitive theory could be then used to select modelling and guided practice to improve the selected target determinant for change (Bartholomew, Markham, Ruiter, Fernández, Kok, & Parcel, 2016).

The processes of change can be applied at higher environmental levels of the socio-ecological model (in Chapter 1) and some of the theories are applicable across the different levels. The multi-theory approach as prescribed by Intervention Mapping would have also assisted to incorporate the dual-systems models that advocate that an individual's behaviour is controlled by two processes. These are the deliberative processes which are governed by the rational and conscious decision making on any given action and the second are implicit processes which governed by the spontaneous, non-conscious influences (Hagger, 2016). Step 4 and 5 would have assisted with pre-testing the curriculum and would have given the research team an opportunity to refine some of the aspects that may have been lacking and carefully plan optimal implementation of the intervention. All these processes were not possible due to budgetary and time constraints. The results of the testing of the intervention in Chapter 6 suggest that modules aimed at strengthening self-efficacy should be incorporated into the behavioural intervention. Additionally, the skills building and affirming components require more time and attention.

Even though intention has been shown to be a good predictor of behaviour, statistical simulations show that intention does not always lead to behaviour change (Fife-Schaw, Sheeran, & Norman, 2007). Research needs to be cognizant of the intention-

behaviour gap in order to develop more effective interventions. Being aware of this gap can help better operationalize variables. To make strides towards closing this intention-behaviour gap, it is important to understand that the quality of the intention matters. This quality of intention is made up of the focal goal (attainable goals are better realized), basis of intention (moral obligation and anticipated regret about failing increase likelihood to act) and properties of intention (e.g. temporal stability where intention measured at two-time intervals remains positive action is more likely). It is therefore suggested that in order to realize intentions, people need to initiate, maintain and close goal pursuit but also take care to constantly monitor the progress until the goal is realized (Sheeran & Webb, 2016).

Concluding remarks

This dissertation has detailed the development and testing of a culturally sensitive and contextual behavioural intervention among young men. The results of this study have provided insights into some of the contextual factors that have an impact on the behaviours and conduct of young men in their romantic and sexual relationships. It has been evident for some time that HIV transmission is driven by risky behaviours therefore in order to design interventions that address these behaviours we need to have a thorough understanding of the reasons why people engage in these behaviours. This understanding requires systematically planned interventions based on a sound theoretical framework that can identify target determinants and develop behaviour change programs. This dissertation was able to highlight how normative beliefs play a crucial role in influencing behaviour and how socio-cultural contexts must be investigated thoroughly to aid development of effective health behavioural interventions.

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SUMMARY

Summary

South Africa has spent a lot of resources over the years towards the prevention and treatment of HIV and AIDS related diseases but the results are not commensurate with these efforts. There still remains a gap as to why these HIV prevention efforts have not yielded lower transmission rates and therefore fewer infected people. There is a need to gain a better understanding of some of the drivers of the HIV/AIDS epidemic. This dissertation is about the development of a culturally tailored and contextually sensitive behaviour change intervention designed for young men. This study was conceived in an attempt to address the need to develop health behaviour change interventions that target men specifically. This is not to suggest that studies focusing on women should be disregarded.

Chapter 1 gives the general introduction to the thesis. The process of behaviour change is explained and the rationale for the context of HIV that places men as focal subjects is highlighted. The outline for all the studies conducted is given.

Chapter 2 This study sought to gaining insights into these perspectives of sexual context with the aim to help understand the sexual behaviours of these young men. The findings indicate phenomena not previously reported of romantic relationship try-outs as well as the idea of 'feeling under pressure' to propose love to more than one woman. Together these practices seemed to be established, accepted practices that could inadvertently lead to multiple concurrent sexual partners and therefore potentially risky sexual behaviours. The fear of impregnating a woman is seen to be of a more significant concern than acquiring a sexually transmitted infection due to the stigma and embarrassment associated with pregnancy outside marriage. These findings highlight a need for more understanding into the cultural and contextual circumstances that precede sexual engagement among men which will then inform more effective HIV prevention interventions.

Chapters 3, 4 and 5 report on the psychosocial determinants at pre-test of the risk behaviours of sexual relationships in the context of alcohol or illicit drugs, non-condom use and not testing for HIV. This was necessary in order to get a snapshot of what the men's views were prior to the experiment and control conditions being administered.

Chapter 3 examined the psychosocial determinants of the intention to be sexually active after having used marijuana or alcohol personally or in instances when the sexual partner was intoxicated. The theory of planned behaviour was extended to include and cultural notions of responsible manhood, demographic variable and past behaviour. The results show that intention to avoid sex when personally intoxicated as well as the intention to avoid sex when the sexual partner is intoxicated were significantly associated with subjective norms and perceptions

of perceived behavioural control towards the respective behaviours, and less with attitudes towards the respective behaviours. Addition of the variables associated with reducing overall alcohol and drug consumption added a further 20% of the variance in intention to avoid sex when personally intoxicated or when sexual partner is intoxicated. Responsible manhood variables did not add any significant contribution to the final model.

Chapter 4 describes the psychosocial correlates of the intention to use condoms among the young men. The theory of planned behaviour was extended to include and cultural notions of responsible manhood, demographic variable, HIV knowledge, condom knowledge and past behaviour. Subjective norms and perceived behavioural control towards consistent condom use explained 46% of the variance in the intention to use a condom. Furthermore, subjective norms and intentions towards reducing alcohol and marijuana use explained an additional 7% to the final model in intentions to condom use. No significant contributions were found for beliefs underlying cultural aspects of responsible manhood.

Chapter 5 investigates psychosocial determinants of intention to test for HIV among young men. The theory of planned behaviour was extended to include and cultural notions of responsible manhood, demographic variable, HIV knowledge, condom knowledge and past behaviour. Results show that subjective norm and perceived behavioural control made significant unique contributions to the final model in intention to test for HIV. Furthermore, an additional 12% of the variance was explained by intention to reduce alcohol, use condoms and towards responsible manhood. Overall the findings for the three studies in chapters 3, 4 and 5 suggest that health behaviour interventions should focus on targeting the normative beliefs as well as control beliefs of the target population. These findings also imply that risky sexual behaviours are associated with one another, for example reducing alcohol and drug use could be examined together with condom use and HIV testing. This could be achieved through education and training or indirectly by creating physical and social environments that facilitate safe sexual practices, for example by organizing positive peer support for risk prevention and by making condoms freely available in community alcohol serving establishments. In other words, instead of just focusing on just one risky sexual behaviour, the first task should be to establish how a group of risky behaviours are all interrelated and design interventions that address the problem holistically or tackle the low hanging fruit (those behaviours that are easier to target) that can help get access to more difficult to access behaviours.

Chapter 6 describes the adaptation, development, and testing of the behavioural intervention. The intervention is evaluated in a peri urban (study 1) and rural area (study 2) to see if there was any difference between the pre-test and the post-test measures after the participants had gone through the experiment and control conditions to see if there had been any positive changes in the psychosocial

measures over time. The results for study 1 showed that 4 of the 19 variables scored significantly different at baseline and that all 19 variables showed no significant changes between pre-test and post-test. For study 2, one significant difference was found for attitude towards avoiding sex when one is intoxicated. Overall, the intervention had minimal success with just one area of positive effect. Further development and testing of this programme is recommended before it can be considered for broader scale implementation.

Chapter 7 discusses all the empirical findings and puts them into perspective. This dissertation sheds light into the often-neglected aspect of HIV prevention efforts with focus on men and details the adaptation of a culturally sensitive and contextual health behavioural intervention. Further, the limitation and recommendations for future research are discussed.

VALORISATION

Valorisation

The sexual act is characterized by a series of decisions that are impacted on by many factors. Perceived social influence is seen as demonstrated by this study to play one of the most pivotal roles in decisions to engage or not to engage in sexual acts. Social influence is how words and actions of others impact on one's thoughts, feeling and ultimately behaviour. How we see ourselves in the context of the social environment is analogous to how a cell responds to the environment or medium it is placed in. It is these responses to the eternal social environment that will help explain how we ultimately behave in any given situation. The sexual act epitomizes the interaction between the individual and the external environment. This dissertation attempts to add to the body of knowledge that explains some of these behaviours. Not using a condom, not testing for HIV, not reducing alcohol and drug intake, not avoiding sex when intoxicated and not avoiding sex with intoxicated people are all behaviours that place young people at risk of HIV infection. The influence exerted on the young men by people they look up to show up strongly as a prediction for intention towards testing for HIV, decision to use a condom or not to, avoiding sex when personally intoxicated, and finally avoiding sex with intoxicated people.

Future research should focus on careful designing of theory-based interventions. The systematic approach of using Intervention Mapping (IM) should be strongly considered. IM is a protocol for developing theory and evidence-based behaviour change interventions.

There are six steps, where each is made up of tasks that incorporate theory and evidence. The completion of each step serves as a guide for the subsequent step, whereby when all the steps are completed the result is a blueprint for designing, implementing and evaluating an intervention based on a foundation of theoretical, empirical, and practical information. The research should put emphasis on having members of the communities play an active role such as becoming part of the planning groups. This has been shown to strengthen the development of the objectives. In closely following the steps as outlined by IM, it will be possible to design sound interventions that speak to the problems facing the community. The social relevance of this study would be to propose that the future studies pay more attention to social influence because it would help give insights into sexual context and some of the other social behaviours that can have a negative impact on the wellbeing of communities.

CURRICULUM VITAE

Curriculum Vitae

Thabang Manyaapelo was born on the 6th December 1975 in Lomanyaneng Village, North West Province in South Africa. He matriculated from St Mary's High School, Mahikeng. He obtained his undergraduate and post graduate training at the University of Cape Town. His Master of Science in Medicine with specialty in Biological Anthropology was awarded in June 2008. From 2005 until 2011, Thabang was working as part of a team that was mandated by the Truth and Reconciliation Commission to locate, positively identify and repatriate missing people who had been murdered by the Apartheid government. These people had been buried in unmarked graves all over South Africa to deny their families a proper burial. In November 2008, he joined the Health Promotion Research and Development Unit of the South African Medical Research Council (SAMRC) where he became project director on various studies. The project focusing on men's health, specifically the development and testing of health behavioural interventions towards reducing risky sexual behaviours would eventually form the basis for his doctoral studies with the Department of Work and Social Psychology at Maastricht University. Upon leaving the SAMRC, he joined the Population Health, Health Systems and Innovation unit at the Human Sciences Research Council where he worked on various projects in public health research

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APPENDICES

Appendix A – Overview of the scale measures (Chapter 6 – Evaluation of intervention)

Table A1. Overview of the scale measures for pre-test variables.

Measures and example items	Number of items	Min Score	Max Score	Mean Score	Standard deviation	Cronbach's Alpha (α)/ Pearson's r
Attitude towards using a condom consistently for every sexual encounter in the next 3 months - Using a condom consistently for every sexual encounter in the next 3 months is something that is good	5	1	5	4.5	0.75	0.81
Subjective Norm towards using a condom consistently for every sexual encounter in the next 3 months -Most people who are important to me think that using a condom for every sexual encounter consistently in the next 3 months is a good thing	5	1	5	3.8	1.16	0.88
Perceived Behavioural Control towards using a condom consistently for every sexual encounter in the next 3 months - For me to use a condom consistently for every sexual encounter in the next 3 months is possible	3	1	5	4.4	0.82	0.70
Intention towards using a condom consistently for every sexual encounter in the next 3 months - I intend to use a condom consistently for every sexual encounter in the next 3 months	6	1	5	4.1	1.10	0.92
Attitude towards testing for HIV at a VCT clinic in the next 3 months - Getting tested for HIV at a VCT clinic in the next 3 months is something that is good	6	1	5	4.4	0.82	0.84
Subjective Norm towards testing for HIV at a VCT clinic in the next 3 months -Most people who are important to me think that getting tested for HIV at a VCT clinic in the next 3 months is a good thing	5	1	5	4.0	1.05	0.89
Perceived Behavioural Control testing for HIV at a VCT clinic in the next 3 months - For me to test for HIV at a VCT clinic in the next 3 months is possible	4	1	5	4.3	0.83	0.76
Intention towards testing for HIV at a VCT clinic in the next 3 months - I intend to test for HIV at a VCT clinic in the next 3 months	6	1	5	4.0	1.04	0.93
Attitude towards reducing overall alcohol and drug intake -Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is good	6	1	5	4.3	0.97	0.86
Subjective Norm towards reducing overall alcohol and drug intake -Most people who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next 3 months is a good thing	5	1	5	3.8	0.99	0.84
Perceived Behavioural Control towards reducing overall alcohol and drug intake -For me to reduce overall drug and alcohol intake to only one day a week in the next 3 months is possible	4	1	5	4.2	0.82	0.72
Intention towards reducing overall alcohol and drug intake -I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months	7	1	5	4.1	1.04	0.93

Attitudes towards avoiding sex when you are intoxicated -Avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is something that is good	5	1	5	4.0	1.20	0.91
Subjective Norm towards avoiding sex when you are intoxicated -Most people who are important to me think that avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is a good thing	5	1	5	3.7	1.05	0.84
Perceived Behavioural Control towards avoiding sex when you are intoxicated - For me to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months is possible	4	1	5	3.9	.88	0.64
Intention towards avoiding sex when you are intoxicated - I intend to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months	6	1	5	4.1	1.04	.92
Attitude towards avoiding sex with people who are intoxicated -Avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is something that is good	5	1	5	3.8	1.42	0.94
Subjective Norm towards avoiding sex with people who are intoxicated -Most people who are important to me think that avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is a good thing	5	1	5	3.7	1.12	0.87
Perceived Behavioural Control towards avoiding sex with people who are intoxicated - For me to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is possible	4	1	5	4.0	.95	0.80
Intention towards avoiding sex with people who are intoxicated - I intend to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months	6	1	5	4.0	1.08	00.92

Table A2. Overview of the scale measures for post-test variables.

Measures and example items	Number of items	Min Score	Max Score	Mean Score	Standard deviation	Cronbach's Alpha (α)/ Pearson's r
Attitude towards using a condom consistently for every sexual encounter in the next 3 months - Using a condom consistently for every sexual encounter in the next 3 months is something that is good	5	1	5	4.3	1.02	0.93
Perceived Behavioural Control towards using a condom consistently for every sexual encounter in the next 3 months - For me to use a condom consistently for every sexual encounter in the next 3 months is possible	3	1	5	4.2	1.01	0.88
Intention towards using a condom consistently for every sexual encounter in the next 3 months - I intend to use a condom consistently for every sexual encounter in the next 3 months	6	1	5	4.0	0.87	0.90
Attitude towards testing for HIV at a VCT clinic in the next 3 months - Getting tested for HIV at a VCT clinic in the next 3 months is something that is good	5	1	5	4.3	0.99	0.93
Subjective Norm towards testing for HIV at a VCT clinic in the next 3 months -Most people who are important to me think that getting tested for HIV at a VCT clinic in the next 3 months is a good thing	5	1	5	3.9	0.79	0.87
Perceived Behavioural Control testing for HIV at a VCT clinic in the next 3 months - For me to test for HIV at a VCT clinic in the next 3 months is possible	3	1	5	4.2	1.04	0.86
Intention towards testing for HIV at a VCT clinic in the next 3 months - I intend to test for HIV at a VCT clinic in the next 3 months	5	1	5	3.9	0.89	0.91
Attitude towards reducing overall alcohol and drug intake -Reducing overall drug and alcohol intake to only one day a week in the next 3 months is something that is good	5	1	5	4.2	1.07	0.90
Subjective Norm towards reducing overall alcohol and drug intake -Most people who are important to me think that reducing overall drug and alcohol intake to only one day a week in the next 3 months is a good thing	5	1	5	3.7	0.91	0.87
Perceived Behavioural Control towards reducing overall alcohol and drug intake -For me to reduce overall drug and alcohol intake to only one day a week in the next 3 months is possible	3	1	5	4.0	1.12	0.86
Intention towards reducing overall alcohol and drug intake -I intend to reduce overall drug and alcohol intake to only one day a week in the next 3 months	5	1	5	3.9	0.88	0.91

Attitudes towards avoiding sex when you are intoxicated -Avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is something that is good	5	1	5	4.2	1.08	0.93
Subjective Norm towards avoiding sex when you are intoxicated -Most people who are important to me think that avoiding engaging in sex when under the influence of drugs or alcohol in the next 3 months is a good thing	5	1	5	3.7	0.97	0.90
Perceived Behavioural Control towards avoiding sex when you are intoxicated - For me to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months is possible	3	1	5	4.0	0.97	0.84
Intention towards avoiding sex when you are intoxicated - I intend to avoid engaging in sex when under the influence of drugs or alcohol in the next 3 months	5	1	5	3.9	0.92	0.91
Attitude towards avoiding sex with intoxicated people -Avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is something that is good	5	1	5	4.1	1.19	0.94
Subjective Norm towards avoiding sex with intoxicated people -Most people who are important to me think that avoiding engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is a good thing	5	1	5	3.6	0.97	0.90
Perceived Behavioural Control towards avoiding sex with intoxicated people - For me to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months is possible	3	1	5	4.1	1.15	0.86
Intention towards avoiding sex with intoxicated people - I intend to avoid engaging in sex with people who are under the influence of drugs or alcohol in the next 3 months	5	1	5	4.0	0.93	0.93

Appendix B— Example of Skills Training Exercises (Chapter 6 – Evaluation of intervention)

Condom use skills:
Materials: Condoms, dildo, lubricants
Purpose: Participants should demonstrate correct ways of putting on a condom on the models provided.

OPRaH
Four Simple Steps - Open, Pinch, Roll, and Hold! (OPRaH)
O = Open package and remove rolled condom without twisting, biting, or using your fingernails. This could damage the condom and allow fluid to leak out.
P = Pinch the tip of the condom to squeeze the air out, leaving 1/4 to 1/2 an inch extra space at the top.
R = Roll condom down on penis as soon as the penis is hard, before you start to make love.
A = and after sex is over...
H = Hold the condom at the rim or base while your partner pulls out after ejaculation but before the penis goes soft. You could lose protection if the condom comes off inside you.

Confidence building skills
Purpose: Participants should demonstrate the different ways of forming sexual and non-sexual relations.
Activity: Participants are randomly divided into two groups. One group will be labelled 'girls' and the other group 'boys'. We then ask the boys to propose love to girls then discuss the various approaches? Role playing activity.